ADDENDUM NO. 4
TO
PLANS AND SPECIFICATIONS
FOR
NEW KA‘Ū DISTRICT GYMNASIUM AND SHELTER
AT KA‘Ū HIGH AND PĀHALA ELEMENTARY SCHOOL CAMPUS
JOB NO. B-4108
PĀHALA, KA‘Ū, HAWAI‘I
COUNTY AND STATE OF HAWAI‘I

NOTICE TO ALL PROSPECTIVE BIDDERS

The items listed below are made a part of the current contract and shall govern the work, taking precedence over the previously issued specifications and drawings governing the particular item of work mentioned.

NOTICE TO BIDDERS

The bid opening is postponed from June 14, 2012 to June 21, 2012 at 2:00pm. Bids received after the time fixed for opening will not be considered.

CHANGES TO DRAWINGS

The following drawings identified as:
Revision #3, (119 sheets attached)
Revision #4, (40 sheets attached)
These sheets shall replace in whole or revise portions of previously issued drawings as indicated:

CHANGES TO THE SPECIFICATIONS

Delete in its entirety the previously issued Technical Specifications and replace with attached revised Technical Specifications identified as Addendum No. 4, dated May 21, 2012 and described as follows:

1. Section 02200 – EARTHWORK: Section 3.05 A, Item 10 has been deleted. Changes/addition shown in **bold**.
2. Section 07240 – EXTERIOR FINISH SYSTEM: Section 1.02 A – word changed. Deleted work shown as strike through and new word shown in *italics*. Section 3.01 B – material information added shown in *italics*. Section 3.04 Added Item A as shown in *italics*.
3. Section 08710 – HARDWARE: Section 2.02, Added to hardware list as shown in **bold**.
4. Section 08951 – INSULATED TRANSLUCENT SANDWICH PANEL SYSTEM: Section 1.05, A – Warranty – revised text as shown in **bold**.

5. Section 10503 – LOCKERS: Section 1.06 Accessibility text added.
6. Section 10615 – DEMOUNTABLE PARTITIONS, Section 2.01, I – Glass type further clarified as shown in **bold**.
7. Section 11550 – FALL ARREST ANCHORING: Section 2.01 E – Cable verbiage deleted.

CHANGES TO DRAWINGS

REVISION #3, DATED 5/18/12
CIVIL (20 sheets attached)

Item No.	Description
	SHEET C-1.1: Revised Construction Notes 1.
	SHEET C-1.2: Revised Construction Notes 2.
	SHEET C-2.0: Revised Demolition Plan.
	SHEET C-3.0: Revised Overall Site Plan.
	SHEET C-3.1: Revised Partial Site Plan 1.
	SHEET C-3.2: Revised Partial Site Plan 2.
	SHEET C-4.0: Revised Overall Grading & Drainage Plan.
	SHEET C-4.1: Revised Partial Grading & Drainage Plan 1.
	SHEET C-4.2: Revised Partial Grading & Drainage Plan 2.
	SHEET C-4.3: Revised Partial Grading & Drainage Plan 3.
	SHEET C-4.4: Revised Partial Grading & Drainage Plan 4.
	SHEET C-4.5: Revised Partial Grading & Drainage Plan 5.
	SHEET C-4.6: Revised Partial Grading & Drainage Plan 6.
	SHEET C-5.1: Revised Site Sections 1.
	SHEET C-5.2: Revised Site Sections 2.
	SHEET C-5.3: Revised Site Sections 3.
	SHEET C-7.0: Revised Overall Utility Plan.
	SHEET C-7.1: Revised Partial Utility Plan 1.
	SHEET C-7.2: Revised Partial Utility Plan 2.
	SHEET C-9.0: Revised Wall Profiles.

REVISION #3, DATED 5/21/12
ARCHITECTURAL (55 sheets attached)

Item No.	Description
A1	SHEET A-1.1, A-1.1a, A-1.1c, A-1.2a1, A1.2a2, A-1.3a, A-1.3b, A-1.3c, A2.3, A5.2, A-5.6, A-5.8, A-5.15, A-6.1, A-6.2, A-6.3, A-6.4, A-6.5a, A-6.6, A-7.2, A-8.1, A-8.5, A-8.6, A-8.7, A-8.9, A-8.10: Drawing Clarification.
A2	SHEET A-1.1a, A-1.1c, A-2.1, A-2.2, A-2.3: Change downspout size.
A3	SHEET A-1.1b, A-5.7: Relocate tackboard per kitchen redesign.
A4	SHEET A-1.1c, A-2.2, A8.12: Added chainlink enclosure at tank less water heater.
A5	SHEET A-1.2a1, A-1.2a2, A-1.2b, A-8.2: Added fall protection system.
A6	SHEET A-2.1, A-2.2, A-2.3: Added control joints at exterior walls.
A7	SHEET A-1.2, A-2.2, A-5.2, A-5.11, A-5.12, A-5.13, A-5.15: Added sign.

A8	SHEET A-2.1, A-2.2: Added leader head.
A9	SHEET A-3.2, A-3.3, A-3.4, A-5.2: Added Supply air duct system.
A10	SHEET A-5.1, A-5.3, A-5.4, A-5.5, A-5.6, A-5.7, A-5.8, A-5.11, A-5.12, A-5.13, A-5.14, A-5.15, A-5.16, A-5.17, A-6.2: Added hard coat plaster finish to gyp board walls.
A11	SHEET A-5.8: Added ceramic tile wainscot.
A12	SHEET T-3.0: Revision of Note 8 – shall be revised to read, "Guarantee: The Contractor shall guarantee the installation, materials and workmanship of all work for (1) one year from DATE OF FINAL ACCEPTANCE OF CONTRACT. Product and system warranties shall be effective from the "DATE OF FINAL ACCEPTANCE OF CONTRACT" by the Owner/Architect and for the period established by the Manufacturer/Installer, or as specifically defined in the Owner/Contractor Agreement.
A13	SHEET A-6.2, A-6.5a: Omit detail.
A14	SHEET A-6.6: Added sign details.
A15	SHEET A-6.6: Added signage schedule.
A16	SHEET A-7.6: Revise folding door head detail.
A17	SHEET A-8.1: Added S.S. wire screen at downspout.
A18	SHEET A-8.2a, A-5.2a: Added sheet.
A19	SHEET A-8.2a: Added downspout details.
A20	SHEET A-8.4: Added ceiling notes.
A21	SHEET A-8.4: Revised trophy case details.
A22	SHEET A-8.5, A-8.6: Added basket guard to access ladder to upper roof.
A23	SHEET A-8.8: Added cane bolt and hole location to security gate.
A24	SHEET A-8.10: Clarify canopy detail.
A25	SHEET A-5.2a: Added acoustical panels at main gym.
A26	SHEET A4.1, A-4.2: Added ceiling joist at wall partitions and toilet partitions as required.
A27	SHEET A-6.4: Revised note.
A28	SHEET A-6.5: Transition added.
A29	SHEET A-6.5: Wainscot added.
A30	SHEET A-8.4: Revise trophy case detail.
A31	SHEET A-2.1: Add tackboard to exterior wall.
A32	SHEET A-2.1: Add counter at exterior wall.
A33	SHEET A-5.1: Add lighting to interior elevation.
A34	SHEET A-6.1: Revise wall types 7,8,9.

REVISION #3, DATED 5/17/12
LANDSCAPE (2 sheets attached)

Item No.	Description
	SHEET L-1.1 AND L-2.1: Revision of courtyard planters.

REVISION #3, DATED 5/21/12
STRUCTURAL (23 sheets attached)

Item	Description
S1	SHEET S-0.1: Revised design loads.
S2	SHEET S-0.1: Added Foundation Investigation Report title.
S3	SHEET S-0.1: Revised CMU joint reinforcing spacing. Deleted design stress note.
S4	SHEET S-0.1: Completed metal deck reference title.
S5	SHEET S-1.1: Added Notes 13 and 14.
S6	SHEET S-1.1: Added Mechanical Equipment Pad.
S7	SHEET S-1.1 and S-1.7: Clarified site retaining wall.
S8	SHEET S-1.7: Clarified planter and bench seating. Added detail targets 5, 6 and 7/S-4.2.
S9	SHEET S-1.7: Added ramp detail target at 8/S-4.2.
S10	SHEET S-1.7: Added Mechanical Equipment Pad.
S11	SHEET S-1.1: Revised curb at parking.
S12	SHEET S-1.1: Revised and added top of footing elevations.
S13	SHEET S-1.1 and S-1.2: Omitted depressed floor designation at Storage Room and Janitor Room.
S14	SHEET S-1.2: Added depressed floor designation at Entry and A.D. Office Restroom.
S15	SHEET S-1.1: Revised column type and footings at grids C/12 and J/12 from C4 to C3 and F-6.0 x 8.0 to F-6.0.
S16	SHEET S-1.1 and S-1.2: Revised window and door opening sin CMU walls to match Architectural drawings. Added CMU wall-column types.
S17	SHEET S-1.2: Revised exterior sidewalk extent.
S18	SHEET S-1.2 and S-1.7: Revised crack control joint pattern at Exterior Courtyard.
S19	SHEET S-1.7: Added shear wall designation to interior wall at Grid G.7.
S20	SHEET S-1.7: Added holdown note in Legend and holdowns to Foundation and Floor Plan.
S21	SHEET S-1.3: Revised CMU note.
S22	SHEET S-1.3: Added awning framing outside of Vestibules 3 and 4.
S23	SHEET S-1.3: Added top connector reference for catwalk hanger.
S24	SHEET S-1.3: Revised column size at grids C/12 and J/12.
S25	SHEET S-1.3: Deleted walls and beam at grids C/11.7 and J/11.7.
S26	SHEET S-1.4: Added suspended concrete slab note at Vestibule 6. Added detail target at Vestibule 5.
S27	SHEET S-1.4: Added framing over roll-up door at Entry. Added detail target 8/S-9.5.
S28	SHEET S-1.3 and S-1.4: Revised window openings in CMU walls to match Architectural drawings. Added note to beam designation to clarify location and extent.
S29	SHEET S-1.4: Add CMU wall and beam at Vestibule 1.
S30	SHEET S-1.3 and S-1.4: Added framing and detail targets for exhaust hood framing in Kitchen and operable door header in Community Recreation Room.

S31 SHEET S-1.5: Revised column size at Grid 12 and moved detail target to Grids C/13.

S32 SHEETS S-1.5 and S-1.6: Added moment connection designation to outriggers at Grids 7 and 13.

S33 SHEETS S-1.5 and S-1.6: Added support framing for basketball backboards and hanging curtain dividers at truss bottom chord level.

S34 SHEET S-1.8: Added plywood sheathing fastening requirements to Notes.

S35 SHEET S-1.8: Added truss note over shearwall and detail target designation.

S36 SHEET S-1.8: Added header beam reference note.

S37 SHEET S-1.8: Added detail target at eaves, 13/S-10.1.

S38 SHEET S-1.8: Relocated girder truss.

S39 SHEET S-2.1 and S-2.2: Revised beam type designation from LRB-2 to LRB-1.

S40 SHEET S-2.1 and S-2.2: Added (BOTTOM) Note to beams.

S41 SHEET S-2.1 and S-2.2: Added (TOPS) Note to beams.

S42 SHEET S-2.1 and S-2.2: Revised basketball background and divider curtain support framing.

S43 SHEET S-4.2: Added detail 5/S-4.2 – Exterior Bench Section.

S44 SHEET S-4.2: Added detail 6/S-4.2 – Exterior Bench Section.

S45 SHEET S-4.2: Added detail 7/S-4.2 – Planter Wall Section.

S46 SHEET S-4.2: Added detail 8/S-4.2 – Section thru ramp.

S47 SHEET S-4.2: Added detail 9/S-4.2 – Concrete Bench Detail.

S48 SHEET S-4.2: Added detail 10/S-4.2 – Concrete Bench Detail.

S49 SHEET S-5.1: Revised detail A/S-5.1 from CMU to Concrete Retaining Wall.

S50 SHEET S-5.1: Added detail 8/S-5.1 – Typical CMU Wall-Column Details.

S51 SHEET S-6.1: Revised vertical bar size from #8 to #9 in Column C-4, Type B.

S52 SHEET S-6.1: Revised notch dimension in Column Type C.

S53 SHEET S-8.1: Revised diagonal member size in truss types LRT-2 and LRT-3.

S54 SHEET S-8.1: Revised dimensions in truss type LRT-3.

S55 SHEET S-8.1: Added detail target 17/S-8.4 to truss type LRT-3.

S56 SHEET S-8.1: Revised dimensions in truss type LRT-5.

S57 SHEET S-8.1: Added "SIM." To detail target 1/S-9.4 in truss type LRT-5.

S58 SHEET S-8.1: Added truss type LRT-6.

S59 SHEET S-8.1: Revised truss type from LRT-6 to LRT-7.

S60 SHEET S-8.1: Revised detail targets in truss type LRHT-1 from 9/S-8.4 to 13/S-9.1 and from 9/S-8.4 to 17/S-8.4.

S61 SHEET S-8.1: Revised detail target in truss type LRHT-2 from 9/S-8.4 to 16/S-8.4 and from 9/S-8.4 to 12/S-8.4.

S62 SHEET S-8.1: Revised dimensions in truss type LRHT-2.

S63 SHEET S-8.2: Revised target reference sheet numbers from S-9.3 to S-8.3 in truss type T-1.

S64 SHEET S-8.2: Revised target reference sheet numbers from S-9.3 to S-8.3 in truss type T-2.

S65	SHEET S-8.2: Revised detail target in truss type JT-1 from 4/S-9.1 to 17/S-8.3.
S66	SHEET S-8.2: Added dimension in truss type JT-1.
S67	SHEET S-8.2: Revised detail target in truss type JT-2 from 4/S-9.1 to 17/S-8.3 and from 12/S-8.3 to 18/S-8.3.
S68	SHEET S-8.2: Revised dimensions in truss type JT-2.
S69	SHEET S-8.2: Revised detail target in truss type HT-1 from 4/S-9.1 to 18/S-8.3.
S70	SHEET S-8.3: Added detail 5/S-8.3 – Detail.
S71	SHEET S-8.3: Added detail 17/S-8.3 – Detail.
S72	SHEET S-8.3: Added detail 18/S-8.3 – Detail.
S73	SHEET S-8.4: Added detail 16/S-8.4 – Detail.
S74	SHEET S-8.4: Added detail 17/S-8.4 – Detail.
S75	SHEET S-9.1: Revised target reference sheet numbers in details 5,8,11 and 13/S-9.1 from S-8.1 to S-9.1.
S76	SHEET S-9.2: Revised welding symbols in detail 9/S-9.2.
S77	SHEET S-9.4: Revised anchor bolt requirement in detail 4/S-9.4.
S78	SHEET S-9.4: Revised reference line in detail 5/S-9.4 from 'Centerline Wall Below' to 'Face of Wall Below'.
S79	SHEET S-9.4: Revised concrete beam size in detail 1/S-9.4.
S80	SHEET S-9.5: Added detail 4/S-9.5 – Typ. Catwalk Hanger Top Connector.
S81	SHEET S-9.5: Added detail 5/S-9.5 – Typ. Operable Door Connector Detail.
S82	SHEET S-9.5: Added detail 6/S-9.5 – Typ. Awning Section at Vestibule #3 and #4.
S83	SHEET S-9.5: Added detail 7/S-9.5 – Typ. Section Thru Vestibule.
S84	SHEET S-9.5: Added detail 8/S-9.5 – Typ. Section at Roll-Up Door Header.
S85	SHEET S-9.5: Added detail 9/S-9.5 – Typ. Operable Door Connector Detail.
S86	SHEET S-9.5: Added detail 10/S-9.5 – Typ. Ceiling Joist Connection.
S87	SHEET S-10.1: Added detail 12/S-10.1 – Box Stud Header Schedule.
S88	SHEET S-10.1: Added detail 13/S-10.1 – Typical Eave Detail.
S89	SHEET S-10.1: Added detail 16/S-10.1 – Typical Truss to Shearwall Connection Detail.

REVISION #3, DATED 5/16/12
MECHANICAL (9 sheets attached)

Item No.	Description
M1	SHEET M-8, M-9, M-10, M-11a, M-12, M-15, M-22: Revised
M2	SHEET M-11: Added diagram.
M3	SHEET M-15: Added section.
M4	SHEET M-13: Add supply air roof jacks.

REVISION #3, DATED 5/17/12
ELECTRICAL (10 sheets attached)

SHEET E-1: Revised light fixture type in courtyard and added branch circuit.
SHEET E-1: Revised duct detail for secondary HELCO service.
SHEET E-2: Revised stanchion call outs on detail 3/E-2.
SHEET E-2: Changed detail name on detail 8/E-2.
SHEET E-3: Deleted Panels 4D and 2D callout on Power and Communication Plan.
SHEET E-4: Revised Branch Circuiting.
SHEET E-5: Revised Branch Circuiting.
SHEET E-6: Revised Ceiling Fan Branch Circuiting.
SHEET E-7: Revised mounting height of Type F light fixture.
SHEET E-8: Added SF-7 through SF-12.
SHEET E-8: Added detail 1/E-8.
SHEET E-12: Revised Detail 3/E-12.
SHEET E-12: Revised Panel 2B & 2C Schedules.
SHEET E-13: Revised call out for Details 5&6/E-13.

(changes to drawings continued)
REVISION #4, DATED 5/25/12
CIVIL (20 sheets attached)

Item No. Description

SHEET C-1.1: Revised Construction Notes 1
SHEET C-1.2: Revised Construction Notes 2
SHEET C-3.0: Revised Overall Site Plan
SHEET C-3.1: Revised Partial Site Plan 1
SHEET C-3.3: Added Jointing Plan 1
SHEET C-3.4: Added Jointing Plan 2
SHEET C-4.0: Revised Overall Grading & Drainage Plan
SHEET C-4.1: Revised Partial Grading & Drainage Plan 1
SHEET C-4.2: Revised Partial Grading & Drainage Plan 2
SHEET C-4.4: Revised Partial Grading & Drainage Plan 4
SHEET C-4.5: Revised Partial Grading & Drainage Plan 5
SHEET C-6.0: Revised Erosion Control Plan
SHEET C-7.0: Revised Overall Utility Plan
SHEET C-7.1: Revised Partial Utility Plan 1
SHEET C-8.1: Revised Utility Profiles 1
SHEET C-8.2: Revised Utility Profiles 2
SHEET C-8.3: Revised Utility Profiles 3
SHEET C-8.4: Revised Utility Profiles 4
SHEET C-8.5: Added Utility Profiles 5
SHEET C-10.7: Revised Utility Details

REVISION #4, DATED 5/30/12
ARCHITECTURAL (12 sheets attached)

Item No.	Description
A1	SHEET A-5.7 and A-7.6: Configuration of demountable partitions changed on Interior Elevation. Detail added on Sheet A-7.6.
A2	SHEET A-4.2: Added location of Sanitary Napkin Disposals in Women's Restrooms.
A3	SHEET A-5.1: Clarified light locations in lobby interior elevation.
A4	SHEET A-5.5, A-5.8, A-5.9: Added location of Mop/Broom holder.
A5	SHEET A-5.17: Added folding partition elevation. Specification Section 11550, Section 2.01 E – Cable verbiage deleted.
A6	SHEET A-8.12: Added Divider Curtain Detail.
A7	SHEET A-5.9 & A-5.10: Added Curtain Rod location clarification.
A8	SHEET A-2.1, A-5.1, A-5.2: Signage dimension information added.

SOUND SYSTEM (8 sheets attached)

Item No.	Description
	SHEET SS-0.1, SS-1.1b, SS-1.1c, SS-1.3b, SS-1.3c, SS-3.1, SS-5.1, and SS-5.2: Sound System Sheets added.

SUBSTITUTION REQUESTS

A. ACCEPTED:

1. HARDWARE (SECTION 08710):
   a. SPECIFIED BRAND: Threshold NGP 896N
      SUBSTITUTE OR ALTERNATE BRAND: PEMKO 2005
   b. SPECIFIED BRAND: Threshold NGP 425HD
      SUBSTITUTE OR ALTERNATE BRAND: PEMKO 1715A
   c. SPECIFIED BRAND: Head/Jamb Seal NGP 700EN
      SUBSTITUTE OR ALTERNATE BRAND: PEMKO 2891 APK/290APK
   d. SPECIFIED BRAND: Gasketing NGP 135N
      SUBSTITUTE OR ALTERNATE BRAND: PEMKO 303AS
   e. SPECIFIED BRAND: Astragal NGP 9115A
      SUBSTITUTE OR ALTERNATE BRAND: PEMKO 305CS
   f. SPECIFIED BRAND: Sill Sweeps NGP B606A
      SUBSTITUTE OR ALTERNATE BRAND: PEMKO 18061CNB
   g. SPECIFIED BRAND: Drip Cap NGP 16A
      SUBSTITUTE OR ALTERNATE BRAND: PEMKO 346C
   h. SPECIFIED BRAND: Precision 2802 LBR
      SUBSTITUTE OR ALTERNATE BRAND: DORMA 9100 LB
   i. SPECIFIED BRAND: Precision 2803 CD LBR X CO3
      SUBSTITUTE OR ALTERNATE BRAND: DORMA 9100 LB Y003
   j. SPECIFIED BRAND: Precision FL2808 X V4908D LBR
      SUBSTITUTE OR ALTERNATE BRAND: DORMA F9100 X YC08C
   k. SPECIFIED BRAND: Precision FL2108 X V4908D
      SUBSTITUTE OR ALTERNATE BRAND: DORMA F9300 X YC08C

l. SPECIFIED BRAND: Stanley FBB 199
SUBSTITUTE OR ALTERNATE BRAND: McKinney T4A3388
m. SPECIFIED BRAND: Stanley FBB 191
SUBSTITUTE OR ALTERNATE BRAND: McKinney TA2314
n. SPECIFIED BRAND: Stanley HC2802
SUBSTITUTE OR ALTERNATE BRAND: Sargent MD8610
o. SPECIFIED BRAND: Stanley 2802 LBR
SUBSTITUTE OR ALTERNATE BRAND: Sargent NBMD8610
p. SPECIFIED BRAND: Stanley 93K-7R14DS3
SUBSTITUTE OR ALTERNATE BRAND: Sargent 10G04 LP
q. SPECIFIED BRAND: Stanley 93K-7AB14D3
SUBSTITUTE OR ALTERNATE BRAND: Sargent 10G24 LP
r. SPECIFIED BRAND: Stanley 93K-0L14DS3
SUBSTITUTE OR ALTERNATE BRAND: Sargent 10U65 LP
s. SPECIFIED BRAND: Stanley D-4550
SUBSTITUTE OR ALTERNATE BRAND: Norton 8501
t. SPECIFIED BRAND: National G 896 N
SUBSTITUTE OR ALTERNATE BRAND: PEMKO 2005AS
u. SPECIFIED BRAND: National G 700 N
SUBSTITUTE OR ALTERNATE BRAND: PEMKO 290A PKSTOP
v. SPECIFIED BRAND: National G 9115 A
SUBSTITUTE OR ALTERNATE BRAND: PEMKO 305CN
w. SPECIFIED BRAND: National G 16A
SUBSTITUTE OR ALTERNATE BRAND: PEMKO 346C
x. SPECIFIED BRAND: National G 135N
SUBSTITUTE OR ALTERNATE BRAND: PEMKO 303AS
y. SPECIFIED BRAND: National G 425
SUBSTITUTE OR ALTERNATE BRAND: PEMKO 171A
z. SPECIFIED BRAND: TRIMCO KO050
SUBSTITUTE OR ALTERNATE BRAND: Rockwood K1050
aa. SPECIFIED BRAND: TRIMCO 3922
SUBSTITUTE OR ALTERNATE BRAND: Rockwood 580-8
bb. SPECIFIED BRAND: TRIMCO 1011-3
SUBSTITUTE OR ALTERNATE BRAND: Rockwood 70C
cc. SPECIFIED BRAND: TRIMCO 1015-3
SUBSTITUTE OR ALTERNATE BRAND: Rockwood 122 X 70C
SPECIFIED BRAND: TRIMCO 3810 X 38201840 X 1805
dd. SPECIFIED BRAND: TRIMCO 3910
SUBSTITUTE OR ALTERNATE BRAND: Rockwood 570
ee. SPECIFIED BRAND: TRIMCO 3915
SUBSTITUTE OR ALTERNATE BRAND: Rockwood 550

2. SOLID PHENOLIC LOCKERS (SECTION 10503):
   SPECIFIED BRAND: ASI Storage Solutions, Inc., Bradley Corporation, Spec-Rite Designs.
   SUBSTITUTE OR ALTERNATE BRAND: Summit Lockers Solid Phenolic Lockers.

   NOTE: Lockers, locker parts and accessories shall meet minimum specified requirements.

3. SCOREBOARDS (SECTION 11480):
   a. SPECIFIED BRAND: Electro-Mech Scoreboard Model #2665.
      SUBSTITUTE OR ALTERNATE BRAND: Nevco Scoreboard Model #2781 - Wireless.
      NOTE:
      i. All scoreboard accessories must meet minimum specified requirements.
      ii. Provide two dedicated 120 VAC outputs for optional visual horn indicators and one data output for daisy chaining additional scoreboards or hot timers.
   b. SPECIFIED BRAND: Electro-Mech Scoreboard Model #2665.
      SUBSTITUTE OR ALTERNATE BRAND: Trans-Lux/Fair-Play Model 1670-4 – Wireless.
      NOTE:
      i. Scoreboard shall be designed for basketball, wrestling and volleyball.
      ii. Provide two dedicated 120 VAC outputs for optional visual horn indicators and one data output for daisy chaining additional scoreboards or hot timers.
      iii. Provide Four digit clock with illuminated colon/decimal indicator that can count up in MM:SS format, count down in MM:SS or SS.T format, or show time of day in HH:MM format.

4. FALL ARREST ANCHORING SYSTEM (SECTION 11550):
   SPECIFIED BRAND: Illinois Tool Works Inc ITW Buildex or BPB Rawlplug Rawl or Guardian CB Series Fall Arrest Anchors.
   SUBSTITUTE OR ALTERNATE BRAND: Pro-Bel Safety Systems Safety and Tieback Anchors, welded assembly consisting of top U-bolt eyelet, pipe upright, and base plate.
   NOTE: Steel Upright shall meet minimum specified requirements.

5. VOLLEYBALL EQUIPMENT (SECTION 11550):
   SPECIFIED BRAND: AALCO Manufacturing Model APPSP-Complete package as specified in Addendum 3.

   SUBSTITUTE OR ALTERNATE BRAND: Porter Athletic Equipment Model 1991 is accepted provided all accessories as specified in Addendum 3

specification Section 11480 can be provided including the Volleyball Transporter Rack meeting the minimum specification is provided.

6. FURNITURE (SECTION 11600):
   a. SPECIFIED BRAND: KI Impress Stool, Armless, hard floor casters, Model K163/NA NF STD POLY 11BN S.
      SUBSTITUTE OR ALTERNATE BRAND: Zoom, Derby Counter Height Stool, Mid-Back, Independent Seat/Back, Armless, Model DE94100.
   b. SPECIFIED BRAND: KI Impress Stool, Armless, hard floor casters, Model K163/NA NF STD POLY 11BN S.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase, Uno Stool with arms, Model TS31102 or TS31101 with stool kit.
   c. SPECIFIED BRAND: KI Impress Task Chair, Free Float with Adjustable T-Arm, hard floor casters, Model K162/JR39 NF STD POLY 1 BOT S.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase, Amia Task Chair, Model 4821410.
   d. SPECIFIED BRAND: KI Impress Task Chair, Free Float with Adjustable T-Arm, hard floor casters, Model K162/JR39 NF STD POLY 1 BOT S.
      SUBSTITUTE OR ALTERNATE BRAND: Zoom, Cruiser Mid-Back, Multi-Task Chair, Adjustable Arms, Model CR46615.
   e. SPECIFIED BRAND: KI Impress Task Chair, Free Float with Adjustable T-Arm, carpet casters, Model K162/JR39.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase, Amia Task Chair, Model 4821410.
   f. SPECIFIED BRAND: KI Impress Task Chair, Free Float with Adjustable T-Arm, carpet casters, Model K162/JR39.
      SUBSTITUTE OR ALTERNATE BRAND: Zoom, Cruiser Mid-Back, Multi-task Chari, Adjustable Arms, Model CR46615.
   g. SPECIFIED BRAND: KI WorkZone Square Shoe Worksurface, Model WZSS244872 74P R 9 NW WM TR OGY LG LKM EKM.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase, U-Free free standing desk system, Model UEC2228L, LPL: Winter on Maple, HPL: Blonde on Maple.
   h. SPECIFIED BRAND: KI WorkZone Basic Worksurface, Model WBW3060 74P 9 NW WM TS OGYLG NC LKM EKM.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase, U-Free free standing desk system, Model US3060, LPL: Winter on Maple, HPL: Blonde on Maple.
   i. SPECIFIED BRAND: KI 700 Series Preconfigured Lateral File, 4-High, Model S7L/364804D.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase, 200 Series Lateral File, Integral Pull, 4 drawer, Lock, Model 2LF18364F ARCN LG CBW KA.
   j. SPECIFIED BRAND: KI 700 Series Mobile Pedestal, Box/Box/File, Model S7P/1520MBBF ARCN LG KA.

SUBSTITUTE OR ALTERNATE BRAND: Steelcase, TS Series Mobile Pedestal, Box/Box/File, Model TS2PBBF22M.

k. SPECIFIED BRAND: KI WorkZone Universal Overhead Cabinet with Steel Door, Model WZUS72 U OS LG KA.
SUBSTITUE OR ALTERNATE BRAND: Steelcase, Overhead Bin with Steel Door, Model RBB72QTAK.

7. GREASE INTERCEPTOR:
   a. SPECIFIED BRAND: Jensen Model HJ750G, 750 Gallon.
   SUBSTITUTE OR ALTERNATE BRAND: Pro-Cast Products, Inc. PC-5-750, 750 Gallon.

8. SEPTIC TANK:
   a. SPECIFIED BRAND: Quality Precast Products, LLC Model No. 2xjz4000, 5000 Gallon.
   SUBSTITUTE OR ALTERNATE BRAND: Pro-Cast Products, Inc. PC-S-5000, 5000 Gallons. Note: An additional manhole will be required if this model is used.

B. <u>NOT ACCEPTED</u>:

1. RECESSED WALL DISPLAY CASE:
   SPECIFIED BRAND: Waddell Harbor 1400 Series Recessed Wall Display Case, Model #14405-WB-BZ
   SUBSTITUTE OR ALTERNATE BRAND: Platinum Visual Systems Recessed Display Case with Sliding Glass Doors SDS.
   NOTE: This Display Case has been removed from the Specification Section 10990 as the trophy case is now not a prefabricated item.

2. EXTERIOR FINISH SYSTEM:
   SPECIFIED BRAND: Sto Corporation Hurricane Resistant EIFS.
   SUBSTITUTE OR ALTERNATE BRAND: Senerflex Classic PB EIFS.
   Note: Does not appear to meet wind and pressure design requirements.

3. PREFORMED METAL ROOFING (Section 07410):
   SPECIFIED BRAND: Pre-formed metal roofing 22 ga. Custom Box Rib by HPM.
   SUBSTITUTE OR ALTERNATE BRAND: T-5 Exposed Fastener panel, 1.5" x 36" coverage, 22 ga, Kynar 500 Finish.
   NOTE: Roofing material/system has been changed in Addendum 1 and 2 to hurricane resistant corrugated metal roofing.

4. FINISH HARDWARE (Section 08710):
   a. SPECIFIED BRAND: Precision HC 2802CD
   SUBSTITUTE OR ALTERNATE BRAND: Dorma HC9100 CD
   b. SPECIFIED BRAND: Precision HC 2803CD
   SUBSTITUTE OR ALTERNATE BRAND: Dorma HC9100 CD Y003
   c. SPECIFIED BRAND: Stanley FBB191 4.5 x 4.5 NRP 630

SUBSTITUTE OR ALTERNATE BRAND: Bommer BB5002

d. SPECIFIED BRAND: Stanley FBB199 4.5 x 4.5 NRP 630
   SUBSTITUTE OR ALTERNATE BRAND: Bommer BB5006
e. SPECIFIED BRAND: Stanley D4550 CS AVB P45HD-112 SRI
   SUBSTITUTE OR ALTERNATE BRAND: Dorma 8916 S-DS X AB89 AVB
f. SPECIFIED BRAND: Stanley D4550 HCS AVB P45HD-112 SN SRI
   SUBSTITUTE OR ALTERNATE BRAND: Dorma 8916 S-DST/K X AB89 AVB
g. SPECIFIED BRAND: Stanley D4450 STD PA BRKT SN SRI
   SUBSTITUTE OR ALTERNATE BRAND: Dorma 8916 PA
h. SPECIFIED BRAND: Stanley D4550 CS P45HD-112
   SUBSTITUTE OR ALTERNATE BRAND: Dorma 8916 S-DS X AB89
i. SPECIFIED BRAND: Best 93K7R14D
   SUBSTITUTE OR ALTERNATE BRAND: Dorma C870R LCC
j. SPECIFIED BRAND: Best 93K7D14D
   SUBSTITUTE OR ALTERNATE BRAND: Dorma C880R LCC
k. SPECIFIED BRAND: Best 93K7AB14D
   SUBSTITUTE OR ALTERNATE BRAND: Dorma C853R LCC
l. SPECIFIED BRAND: Best 93K0L14D
   SUBSTITUTE OR ALTERNATE BRAND: Dorma C840 LCC
m. SPECIFIED BRAND: K2 QDB 285
   SUBSTITUTE OR ALTERNATE BRAND: Dorma D871
n. SPECIFIED BRAND: Schlage B663J
   SUBSTITUTE OR ALTERNATE BRAND: Dorma D863J
o. SPECIFIED BRAND: Stanley HC2803
   SUBSTITUTE OR ALTERNATE BRAND: Sargent MD8606 ETP
p. SPECIFIED BRAND: Stanley 2803 LBR
   SUBSTITUTE OR ALTERNATE BRAND: Sargent NBMD8606 ETP
q. SPECIFIED BRAND: Stanley FL2808 x V4908D
   SUBSTITUTE OR ALTERNATE BRAND: Sargent 12-MD8613 ETP
r. SPECIFIED BRAND: National G B606 A
   SUBSTITUTE OR ALTERNATE BRAND: PEMKO 345CNB
s. SPECIFIED BRAND: TRIMCO 3913
   SUBSTITUTE OR ALTERNATE BRAND: Rockwood 557

5. INSULATED TRANSLUCENT SANDWICH FIBERGLASS PANEL SYSTEM (Section 08951):
   SPECIFIED BRAND: Kalwall Corporation or Structures Unlimited, Inc. Insulated Sandwich Fiberglass Panel System.
   SUBSTITUTE OR ALTERNATE BRAND: CPI Daylighting Quadwall Polycarbonate Panel System.

6. SOLID COLOR REINFORCED COMPOSITE TOILET PARTITIONS, URINAL SCREENS, AND SHOWER DIVIDER (Section 10161):
   SPECIFIED BRAND: Bobrick 1090 Series Vandal Resistant.
   SUBSTITUTE OR ALTERNATE BRAND: AMPCO Evergreen.

7. ATHLETIC EQUIPMENT (Section 11480):
   SPECIFIED BRAND: AALSCO Manufacturing SWP 2-CLIP Standard Wall Pads (per Addendum 3).
   SUBSTITUTE OR ALTERNATE BRAND: Porter Athletic Equipment 00570 – 0XX.

8. FURNITURE (Section 11600):
   a. SPECIFIED BRAND: KI M16 Armless Chair, Uph, Seat/Poly Back, hard floor casters, Model M16NAUS BL STD POLY 1BSE C.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase, Reply ARMLESS Chair with Casters, Model R140900HR.
   b. SPECIFIED BRAND: KI M16 Armless Chair, Uph, Seat/Poly Back, carpet casters, Model M16NAUS LG PWG C 27.153.011.P.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase, Replay ARMLESS Chair with Casters, Model R140900HR.
   c. SPECIFIED BRAND: KI M16 Armless Chair, Uph, Seat/Poly Back, carpet casters, Model M16NAUS LG PWG C 27.153.011.P.
      SUBSTITUTE OR ALTERNATE BRAND: Zoom, Ribbon, Armless, on Casters, Model R140900HR.
   d. SPECIFIED BRAND: KI WorkZone Piano Peninsula Worksurface, Model WZPP304872 74P R 9 NW WM TL OGY LG LKM EKM.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase, U-Free free standing desk system, Model UJC2382R, LPL: Winter on Maple, HPL: Blonde on Maple.
   e. SPECIFIED BRAND: KI DataLink Rectangular Table with T-Base, Model DM37F 74P EKM LKM LG.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase Rectangular Table with T-Base, Model BFRR4284, LPL: Winter on Maple, HPL: Blonde on Maple.
   f. SPECIFIED BRAND: KI Trek Plus Oval Typical Table, Fixed Model TPOV36F 74P EKM LKM LG 4CW.
      SUBSTITUTE OR ALTERNATE BRAND: Steelcase Conference Table, Stationary, Oval-Shape, Model US3036, UPL4 UCL, LPL: Winter on Maple, HPL: Blonde on Maple.

REQUEST FOR INFORMATION

1. QUESTION: The Proposal Form does not provide for Unit Pricing of any portion of the work, and specifically not for the grout to be employed in this scope of work. Will the County be amending the Proposal Form to address the requirement to provide Unit Costs for the grout material?
   RESPONSE: Specification Section 02200 – EARTHWORK, Section 3.05 A, Item 10 has been deleted.

2. QUESTION: Due to the magnitude of the project's scope of work, various bidders may submit differing costs for differing quantities of the specified Probing work. Additionally, the quantity(s) for this scope of work typically varies based on the discovery or non-discovery of voids and cavities in the areas proposed for the building foundations. Can the County amend the Proposal Form to stipulate an estimated quantity for this scope of work and also to stipulate that prospective Contractors will be compensated for this scope of work on a "Variable Quantity/Unit Cost" basis relative to the linear footage of probing provided in the work?

   RESPONSE: Specification Section 02200 – EARTHWORK, Section 3.05 A, Item 10 has been deleted.

3. QUESTION: In the specifications section 02200 paragraph 3.05 a.10 calls for probing and grouting at all building columns and bearing wall footings and calls for a unit cost for grouting. The proposal in addendum 2 for guidance does not contain a section to enter unit costs for the grouting. Please advise if a(n) allowance should be used for the grout material and provide additional information for the quantity of probing at continuous wall footings.

   RESPONSE: Specification Section 02200 – EARTHWORK, Section 3.05 A, Item 10 has been deleted.

4. QUESTION: Specification Section 10615 Demountable partitions calls out to see the drawings for the demountable partitions but the drawings do not show the demountable partitions. Please advise if Section 10615 is to be used and if so provide details for the demountable partition with locations and sizes.

   RESPONSE: See Sheet A-5.7, 2/A-5.7 – Athletic Director's Conference-A120 for demountable partitions shown. Configuration of demountable partitions changed in this addendum.

5. QUESTION: Room A114 Ticket Booth counter height: ?? *AFF* Please confirm finished height of the counter where C-1 & C-2 chairs will be positioned.

   RESPONSE: Room A114 Ticket Booth counter height is 34" AFF. C-1=34" AFF, C-2=29" AFF.

6. QUESTION: Room A114 Ticket Booth chairs: Do they have to be armless? Floor plan shows there is room for chairs/stools with arms. The Uno stool proposed in this email comes with arms. There is no additional charge for the arms in the Steelcase Uno stools. The overall width of the Uno Stools is 24-3/4" wide, and the seat width is 18-1/4" wide, so there is quite a bit of wiggling room between the seat and arms.

   RESPONSE: Arms will be ok.

7. QUESTION: Will both Low Pressure Laminate (LPL) as well as High Pressure Laminate (HPL) be acceptable for all laminate work surfaces?

   RESPONSE: OK – both will be acceptable.

8. QUESTION: The Specification Section 10650, Operable Partitions, paragraph 2.03D specifies a Pivot Panel attached to the wall. As drawn in A-1.1a, there is no pivot panel attached to wall adjacent to gridline L. Is it the designer's intent to have the pivot panel permanently mounted to wall adjacent to gridline L?
   An alternative is to include a 48" basic panel with a pass thru door within it instead of a pivot panel. This will eliminate a mounted pivot panel against the gridline L wall and allow for it to store with the other panels in the pocket.

   RESPONSE: Remove pivot panel and add 48" basic panel with ADA pass thru door and store with other panels as suggested. See Addendum 4, 2/A-5.17 Interior Elevations.

9. QUESTION: The Specifications Section 10615, Demountable Partitions, paragraph 1.03D specifies STC 44 and STC 48 for solid panels. Panels are drawn as glazed partitions which cannot achieve either STC 44 or STC 48. Please clarify STC requirement for the glaze demountable partition.

   RESPONSE: Glazed partitions are priority over STC rating. Provide glazed panels with highest STC rating available.

10. QUESTION: Drawing K1 & Spec sec 11480 indicated a Refrigerator & Freezer provided under architectural section. We cannot find it in the drawings and specifications. Is this to be supplied by owner? If not, please provide required data for pricing.

    RESPONSE: Refrigerator & Freezer is to be provided by Contractor. Specification Section 11450 added in Addendum 3.

11. QUESTION: Reference food service equipment pg 11400-9 items
1 – Refrigerator, 2-Door (Provided Under Architectural Section)
2 – Freezer, 1-Door (Provided Under Architectural Section)

Sheet notes to find type of unit under arch sections however not found. Residential type is not recommended for commercial environment. Please provide specifications.

RESPONSE: Residential type Refrigerator & Freezer is being requested by client. Specification Section 11450 added in Addendum 3.

12. QUESTION: Drawing S-1.3 shows structural steel truss LRT-7. Please see below image. However we cannot find the truss elevation that will indicate the members. Please provide drawing elevation for LRT-7.

RESPONSE: Please see addendum 3 structural drawings.

13. QUESTION: Specification Section 10800 Toilet Accessories PAR 2.02 calls for Toilet seat cover dispenser, sanitary napkin disposal, shower curtain, rod & hooks, baby changing station, mop & broom holder. However, we cannot find these items on the drawings. Please clarify.

RESPONSE:

- Toilet Seat Cover Dispensers has been deleted in Addendum 1.
- Sanitary Napkin Disposal shown on interior elevation Addendum 4.
- Shower Curtain and Rods shown in interior elevation Addendum 4 Sheet A-5.9 & A5.10.
- Robe Hooks as shown on interior elevations.
- Baby Changing Station shown on Family Restrooms interior elevation Addendum 1.
- Mop and Broom Holder see interior elevations of Janitor's Room A112, Storage A124, and Janitor's Room 131 in Addendum 4.

14. QUESTION: Architectural Plans A 5.7 – Please confirm following for Demountable walls Rooms A 120 & A 121:
    - Floor Type: R1 Rubber per Schedule A 6.4 & A 6.5.
    - Grid Type: 5/16" per Schedule A 6.4 & A 6.5.
    - Width of each wall.
    - Locations for Interior Demountable walls in each room.

RESPONSE:

- Floor Type: Rubber floor changed to VCT in Addendum 1.
- Grid Type: 15/16".
- Width of each wall: See interior elevation 2/A-5.7 Addendum 4.
- Location for Interior Demountable walls in each room: the demountable wall is between and divides the AD Office and AD Conference Room.

15. QUESTION: Is the 3" water line to be copper or are we able to substitute 4" ductile iron water pipe for cost savings?

    RESPONSE: The 3" water line shall be copper.

16. QUESTION: Will the department of water supply provide the 2" meter and 6" DC meter?

    RESPONSE: The Department of Water Supply will provide the meters.

17. QUESTION: The drain inlets called out on the overall grading and drainage plan C4.0 are shown as 25" x 25" ID in the detail, but the 18" drain lines will not have room for grout in the areas where the drain inlets feed directly into the 18" lines. Please clarify.

    RESPONSE: The 18" drain line should be able to fit in a 25" ID drain inlet. Refer to detail sheet C-10.7.

18. QUESTION: We were unable to locate a section for the grass parking area aggregate requirements. Please provide Subgrade requirements.

    RESPONSE: "Grass Parking" area shall be treated as landscaped area. There are no aggregate requirements. Refer to drawings and specifications for earthwork in cut/fill conditions.

19. QUESTION: Please provide details and specification of the court divider curtain as shown and called for in the above reference drawings.

    RESPONSE: Divider Curtain Specification added in Section 11480 – Athletic Equipment in Addendum 3. Detail added to Sheet A-8.12 in Addendum 4.

20. QUESTION: The details on sheet A8.1 call for a "1/2" Roofing Board", over the metal decking. I am wondering what the 1/2" roofing board is? Gyp.? Densdeck? Please clarify.

    RESPONSE: See Section 07500 – HIGH PERFORMANCE ROOF BOARD added in Addendum 3. Also see revised roofing details in Addendum 1.

21. QUESTION: Per addendum #2 sheet E1, E4, E5 and E8 are missing? Please Provide.

    RESPONSE: Added in Addendum 3.

22. QUESTION: Per addendum #2 are showing some ceiling paddle fans on sheets A1.3a, A1.3b, and A1.3c. Ceiling paddle fans, circuitry, switch bank locations, type of fan controls, etc. are not shown on the E-sheets nor on sheet E12 "Light Fixture Schedule" or specs. Are the paddle fans and controls supplied an installed by the Mechanical or Electrical Sub Contractor? Please provide specs/description on ceiling fans and controls?

    RESPONSE: Specifications, locations of additional fans and electrical information added in Addendum 3. Ceiling Fan installer to be determined by General Contractor.

23. QUESTION: Sheet E1 "One Line Diagram is showing (1) 5" conduit from the Helco transformer to the new gym with 4-#600MCM and 1-#1/0G service cables. Sheet detail 1/E2 "Electrical Service Elevation" and detail 7/E2 "300 KVA Transformer Pad Det" is showing (2) 5" conduits. Is the (2^{nd}) 5" conduit a spare? Or do we need to include another set of the same size service cables in the (2^{nd}) conduit?

    RESPONSE: Second 5" is a spare.

24. QUESTION: Sheet E1 is referencing to look at details 5/E13, 6/E13, 7/E13. These details are not provided on sheet E13. Please provide.

    RESPONSE: This is clarified in Addendum 3.

25. QUESTION: Per addendum #2 sheet E5 is showing a "3/4" x 4' x 8' Termite Treated Plywd BB For CATV & Data" in room A102 "Gym Elec." Sheet E11 "Communication & CATV Wiring Diagram-Gym" is showing backboards in rooms A136, A145, and B104. Is backboard in room A102 required or not? If required, please provide conduit and wiring requirements.

    RESPONSE: Backboard in Rm A102 has been eliminated.

26. QUESTION: Please advise the quantity of cat 5E cable(s) required to each Tele/Data and or Tele outlets. Sheet E11 "Communication & CATV Wiring Diagram-Gym" indicates a 1" or ¾" conduit w/ 4pr Cat5E UTP cable to each Tele/Data or Tele outlet from the backboard in rooms A136 and B104. No cable call outs are indicated from backboard A146. Is this typical for all Tele/Data and Tele outlets as detail 2/E12 indicates (2) ea. RJ-45 jacks and detail 3/E12 indicates (4) ea. RJ-45 jacks. Should the cables be Cat 5E or Cat 6 UTP cable? Plenum or non-plenum rated?

    RESPONSE: Conduit sizes are typical. Non-plenum rated CAT 6 cables.

27. QUESTION: Sheet E11 "Communication & CATV Wiring Diagram-Gym" is showing a 4" conduit with 12 strand single mode FO and 540 coax cable from backboard in room A146 to Admin Bldg Data Rack. Please provide specifications on cables and type of connectors required. Where is the Admin Bldg located in relation to the new Gymnasium? Can a electrical site plan be provided showing the distance, routing of conduit and excavation/trenching work from the new Gymnasium to the Admin Bldg? Does conduit need to be concrete encase? If a site plan is not available, then for bidding purposes can an allowance be provided?

    RESPONSE: Addendum 3 shows the distance and location of the admin bldg. Contractor to coordinate exact termination equipment with DOE representative.

28. QUESTION: Sheet E11 "FA Riser Diagram" is a note from the FACP "To existing Ka'u HS FA System via PBFI (Simplex 4100)". What does PBFI stand for?

    RESPONSE: Addendum 3 indicates location of the existing FACP in the Admin Building.

29. QUESTION: Sheet E-11 "FA Riser Diagram" indicates to run a conduit from the new FACP "To Exst Kau HS FA system via PBFI (Simplex 4100)". Where is the bldg that the existing Simplex 4100 FACP is located in relation tot the new Gymnasium? Can a electrical site plan be provide showing conduit size, wiring requirements, distance, routing of conduit and excavation/trenching work from the new Gym to the bldg where the existing Simplex 4100 is located? Does the conduit need to be concrete encase? If a site plan is not available, then for bidding purposes can an allowance be provided?

    RESPONSE: Addendum 3 addresses this.

30. QUESTION: Sheet E2 detail 4/E2 “Elec Vehicle Charging Station-Enlarged Plan”. No Specs were provided. Do we just go by the description shown on detail 4/E2 “EVCHR 208V, 1PH, 10KW”? Is the Electrical Sub Contractor responsible for power wiring only? If so who will be furnishing and installing these?

    RESPONSE: Contractor to provide EV charger. Electrical Requirements are general.

31. QUESTION: Sheet E1 “Site Electrical Plan” is concrete jacket conduit encasement required for street lighting and electric vehicle charging stations?

    RESPONSE: No concrete jacket required for this ductline.

32. QUESTION: Sheet E13 detail 3/E13 is showing “Typical Duct Detail For Tel & CATV” to be direct bury. There is not detail 3/E13 detail shown on sheet E1 “Electrical Site Plan”. Please advise if all Utility conduits and conduits running between buildings require concrete jacket encasement.

    RESPONSE: See Addendum 3 for clarification.

33. QUESTION: Specification Section 10260 calls for corner guard. However, we cannot find corner guards on the drawings.

    RESPONSE: Corner guards shall be installed where ever there is an interior exposed corner with high impact plaster or gypsum board finish.

34. QUESTION: Sheet A-2.1/Exterior Elevations/East Right Side – Please confirm the letter height, material and thickness for the metal building signage (Individual Letters) “COUNTY OF HAWAII KA’U DISTRICT GYM” (Die cast letters and flat cut letters are the two most common types) specs 10440/2.03/A,B&C provide no details on size, material and thickness.

    RESPONSE: Sign shall be individual Cast aluminum, Arial, Dark Bronze Anodized, Flush mounted. 8.5” high letters shall be approximately 6-5/8” average width, ¾” approximate depth, Stroke min-max 1”-1-1/8”. 14” high letters shall be approximately 12-3/4” average width, 1-1/4” approximate depth, Stroke min-max 1-7/8” – 2-1/8”.

35. QUESTION: Sheet A-5.1/Main Gym – Interior Elevations/ Detail C – same question as above.

    RESPONSE: Sign shall be individual Cast aluminum, Arial, Dark Bronze Anodized, Flush mounted. 9” high letters shall be approximately 7” average width, ¾” approximate depth, Stroke min-max 1”-1-7/16”.

36. QUESTION: Sheet A-5.2/Main Gym – Interior Elevations/Detail A and C – Detail A – same question as 34.

    RESPONSE: Wall pad signage as indicated in Addendum 3. "HONOR THE GAME" shall be die cut self adhesive stencil, color to be selected from manufacturer's standard colors.

37. QUESTION: Where are the signs/sign locations in the plans that relate to specifications 10440/2.04/A.

    RESPONSE: See addendum 3 drawings signage sheet.

38. QUESTION: Please provide proof of seal/material call/install location call out for School Seal – Specifications 10040/2.05/A.

    RESPONSE: The school seal has been deleted from the Specifications in addendum 3.

39. QUESTION: Drawings 4/A-5.8, 2/A-5.9, 2/a-5.10 calls for a double tier plastic lockers. Specs sec 10500 PAR 2.01, A.1. states a single tier, 18" wide by 18" deep by 60" high plastic lockers. Please clarify.

    RESPONSE: Locker specifications has been revised in Addendum 3.

40 QUESTION: ROOM A-11(2) Janitor-Room Finish Schedule list CT-7 at Walls. Interior Elevations-Sheet A-5.5 does not show any wall tile. Please provide Drawing to indicate location of Wall tile.

    RESPONSE: There are no wall tiles in the Janitor's Room. Please see addendum 4 drawings for material clarification.

41. QUESTION: Room A-126 Athletic Trainer-Room Finish Schedule list CT-1 on Floors. Partial Floor Plan-Sheet A-1.1b does not show any Ceramic Tile floor. Enlarged Floor Plan 0 Sheets A-4.1 & A-4.2 does not show Room A-126. Please Provide drawing to indicate location of Floor tile.

    RESPONSE: See Sheet A-6.5a of Addendum 4 for clarification.

42. QUESTION: Room A-127 Unisex Locker 1-Room Finish Schedule list CT-3 & CT-4 on Floors. Enlarged Floor Plan-Sheet A-4.1 does not show how CT-3 or CT-4 to be used. Please provide drawing to indicate-How CT-3 & CT-4 is to be Used. (-50% each color-Random Blend/Checker Board Pattern/CT-3 as Field-CT-4 as Border).

RESPONSE: See Sheet A-6.5a of Addendum 4 for clarification.

FOR

Warren H. W. Lee, P.E., Director
Department of Public Works
County of Hawai'i

Date Issued: June 12, 2012

Please detach and execute the receipt below. Return immediately via facsimile (808) 961-8630 or mail to the Administration Office, Department of Public Works, County of Hawai'i at Aupuni Center, 101 Pauahi Street, Suite 7, Hilo, Hawai`i 96720-4224.

Receipt of Addendum No. 4 via website for NEW KA'Ū DISTRICT GYMNASIUM AND SHELTER, Job No. B-4108, Pāhala, Ka'ū, Hawai'i, is hereby acknowledged.

Signed:_____ Title: _____

Firm: _____ Date: _____

SECTION 02200 - EARTHWORK

PART 1 - GENERAL

1.02 SUMMARY

A. This work shall include the construction of embankments, berms, and the excavating, hauling, placing and compacting of suitable material obtained on-site, from borrow pits or from designated sites approved by the County to the finish grades and dimensions shown in the Construction Drawings and in accordance with these Specifications.

1.02 JOB CONDITIONS

A. Dust Control: Use all means necessary to control dust on and near the project site and all off-site borrow areas if such dust is caused by the Contractor's operations during performance of the work or if resulting from the condition in which the Contractor leaves the site. Thoroughly moisten all surfaces as required to prevent dust being a nuisance to the public, neighbors, and concurrent performance of other work on the site. See Section 02050 – SITE DEMOLITION AND REMOVAL paragraph 1.04.

1.03 STANDARD CODES AND SPECIFICATIONS

A. The "Standard Details for Public Works Construction," September 1984 and the "Standard Specifications for Public Works Construction", September 1986, of the Department of Public Works, City and County of Honolulu, except as amended in the drawings and specifications herewith, shall govern work covered under this section.

1.04 LEED REQUIREMENTS:

A. Refer to Section 01352 – LEED REQUIREMENTS for requirements and procedures that govern this section and work to acquire LEED silver certification for this complex.

1.05 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTALS.

B. Submit certification from the material producer that the material supplied complies with the requirements of this specification.

PART 2 - PRODUCTS

2.01 GENERAL

A. Approval Required: All fill material to be incorporated into the project shall be subject to approval by the Project Geotechnical Engineer. Notify the Project Geotechnical Engineer at least four working days in advance to schedule and coordinate soil testing.

B. Testing: The Contractor shall notify the Project Geotechnical Engineer of the location of the proposed borrow site and permit the Project Geotechnical Engineer to sample as necessary from the borrow area for the purpose of making acceptance tests to prove the quality of the material. If requested by

the County, the Contractor shall employ an independent soils testing laboratory to determine the suitability of the borrow material, the results of which shall be submitted to the County. All costs associated with this testing will be borne by the Contractor. In case the material is rejected, the Contractor shall designate another borrow site. All borrow sites shall be approved by the County in writing.

2.02 ON-SITE FILL MATERIAL

A. Definition: Materials excavated from within the project limits but outside of the planned finish cross sections shall be considered as on-site fill material.

B. All on-site material to be used as embankment shall be soil or soil-rock mixture that is free from organic matter and other deleterious substances, such as rock fragments greater than 3 inches in maximum dimensions.

C. The on-site clayey soils generated from the cut areas may be used as embankment fill material up to the bottom of the non-expansive capping layer or subbase course. These on-site silty and clayey soils shall not be used as the select granular fill material or select borrow below slabs-on-grades and pavements.

D. Fill materials required for project construction, including the 12-inch capping layer underneath the building slab, should consist of non-expansive select granular material, such as crushed coral or basalt. The material should be well-graded from coarse to fine with no particles larger than 3 inches in largest dimension and should contain between 8 and 20 percent particles passing the no. 200 sieve. The material should have a laboratory CBR value of 20 or more and should have a maximum swell of one percent or less when tested in accordance with ASTM Test Designation D 1883.

E. Fill materials should be moisture-conditioned to the above moisture content, place in level lifts not exceeding 8 inches in loose thickness. Cohesive material, such as the onsite silty clay, should be compacted to a minimum 90 percent compaction. Granular structural fill should be compacted to 95 percent compaction.

2.03 IMPORTED GENERAL FILL MATERIAL

A. Definition: Materials outlined from borrow pits outside of the project limits shall be considered as imported borrow. Unless designated otherwise in the special provisions, the Contractor may secure imported borrow from any source if approved in writing by the County.

B. Borrow material shall meet the requirements for the particular use intended. Borrow material for general fill shall have particles less than 6 inches in its maximum dimension. It shall have an expansion value of 1 percent or less and a CBR value of 8 or greater when tested in accordance with ASTM D1883.

2.04 SELECT BORROW FOR SUBBASE

A. Composition: Select borrow for subbase course shall consist of crusher run waste, mudrock, coral, sand, or cinders. The material shall be free of organic matter and other deleterious substances and shall have a minimum California Bearing Ratio value of 25 percent.

B. Size: The maximum size of any particle in its greatest dimensions shall not exceed 3 inches. The material shall be well graded from coarse to fine so as to form a dense compacted layer. The amount of material passing the 200 mesh sieve shall be less than 15 percent. Filler shall be added to the select borrow if required to obtain a well graded mixture.

2.05 SELECT GRANULAR MATERIAL

A. Composition: Non-expansive select granular material shall consist of such materials as crushed coral, mudrock, basalt or cinder sand. The material shall be well-graded from coarse to fine with no particles larger than 3 inches in largest dimension and shall contain between 10 and 30 percent particles passing the No. 200 sieve. The material shall have a laboratory CBR value of 20 or more and shall have a maximum swell of 1 percent or less.

2.06 OTHER MATERIALS

A. All other materials not specifically listed herein-in, but required for the successful installation of the work included, are subject to approval.

PART 3 - EXECUTION

3.01 GENERAL

A. All grading work shall conform to Chapter 23 and Chapter 14, Articles 13, 14, 15 and 16 as related to grading, soil erosion and sediment control, of the Revised Ordinances of Honolulu, 1990, as amended and as specified herein.

B. Familiarization: Prior to all work of this section, become thoroughly familiar with the site, the site conditions, and all portions of the work falling within this section.

C. All fills shall be tested and approved by a licensed geotechnical engineer. The services of the project geotechnical engineer shall be provided and paid by the Contractor. For the purpose of these specifications, observation by the project geotechnical engineer includes monitoring and testing performed by any person or persons employed by and responsible to, the licensed Civil Engineer retained as the project geotechnical engineer.

3.02 TECHNICAL DEFINITIONS

A. Relative Compaction: Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same soil established in accordance with ASTM 1557-91 test Procedures.

B. Optimum Moisture: Optimum moisture is the water content (percentage by dry weight) corresponding to the maximum dry density.

3.03 LAYING OUT

A. Preparation: In advance of setting line and grade stakes, the subgrade area shall be cleared of brush, weeds, vegetation, and debris, all of which shall be satisfactorily disposed of to the satisfaction of the County and in accordance with Section 02100 - SITE PREPARATION of these specifications.

B. Licensed Surveyor: The laying-out of base lines, establishment of finish grades and staking out of the entire work and the verification of finished grades of the subbase to the required tolerances shall be done by a registered Surveyor licensed in the State of Hawaii. The contractor shall carefully preserve all data and all monuments set by the Surveyor and, if displaced or lost, immediately replace them to the approval of the County and at no additional cost to the Owner.

C. Discrepancies: Should any discrepancies be discovered in the dimensions given in the Plans, the Contractor shall immediately notify the County before proceeding any further with the work, otherwise he will be held responsible for any costs involved in the correction of the construction placed due to such discrepancies.

D. The Contractor shall retain at his expense a Geotechnical Engineer (approved by County of Hawaii) throughout all earthwork operation to provide monitoring and testing service, to include items as follows:

1. Observation of subgrade preparation.
2. Observation of foundation probe and grout.
3. Observation of footing excavation.
4. Observation of fill/to-fill placement and compaction.
5. All utilities and drainage excavation and backfill.

3.04 SITE PREPARATION

A. Installation of Good Neighbor Barrier and Silt Fence: Lumber used shall be appropriately treated for protection against termites and weathering.

B. Unsuitable Materials: Unsuitable materials and rocks and boulders greater than 3 inches in greatest dimension encountered during the course of the grading operations shall be removed and disposed of properly off-site in accordance with these specifications.

C. Clearing: The natural ground surface within the contract grading limits shall be thoroughly cleared and grubbed of vegetation, junk and other organic matter and shall be inspected by the County before placing the general fill or embankment material. Clearing and grubbing of the project site shall be done in accordance with the requirements of Section 02100 - SITE PREPARATION of these specifications.

D. Soft and Yielding Areas: Soft and yielding areas encountered below any areas designated to receive fill shall be over-excavated to expose competent material. The Contractor shall remove and properly dispose of the excavated soils and backfill the resulting excavation with well compacted engineered fill.

E. Sloped Areas: When the fill or embankment is to be constructed on a slope greater than five horizontal to one vertical, the existing slope shall be keyed and benched to receive the new fills. The excavated material, if acceptable, shall be recompacted along with the new material at the Contractor's expense. Ground with flatter slopes shall be terraced when directed by the County or when specified in the special provisions.

F. Over-Excavated Areas: Over-excavated areas due to soft or yielding soils shall be scarified to a depth of about 8 inches, moisture-conditioned to at least 2 percent above the optimum moisture, and compacted to a minimum of 90 percent relative compaction. The Contractor shall remove these soils and the resulting excavation backfilled with well compacted engineered fill. The excavated soft and/or organic soils shall not be used as fill and shall be properly disposed of.

3.05 PLACING GENERAL FILL

A. Description: This section covers placement of fill material in all areas except for the subbase course under paved areas and the 12-inch capping layer under building slab areas.

1. Suitable Materials: Imported borrow or approved onsite excavated material conforming to these specifications shall be used in construction of fills in all areas except for the subbase course under paved areas and the 12-inch capping layer under building slab areas. The better material shall be used in the surface or upper layers. No vegetation, debris, junk or other extraneous matter shall be mixed with the embankment material nor placed within the fill.

2. Layers: Fill material shall be placed in successive layers limited to 8 inches in loose thickness. Each layer shall be approximately level with the center constructed slightly higher than the sides for storm water runoff.
   a. Bottom Layer Thickness: In placing soil material 2 feet below finished grade, the compacted thickness of each layer shall not exceed 8 inches.

   b. Top Layer Thickness: The top 2-foot layer of fill shall be constructed in horizontal lifts not to exceed 6 inches in compacted thickness. The percent compaction shall be as specified herein.

3. Compacting Method: Fill shall be compacted with compacting equipment satisfactory to the County. The use of hauling equipment to obtain partial compaction will be allowed, but the Contractor will be required to compact the full width and depth of each layer to the required density before placing the next lift. In locations where it would be impractical to use rollers or heavy compacting equipment, the material shall be compacted in 6-inch lifts with any method that will produce the required density.

4. Moisture: At the time of compaction, the moisture in the material shall be at least 2 percent above the optimum moisture. Material that is too wet shall be dried before compacting. Material placed at moisture contents varying from this requirement shall be approved by the County in writing.

5. Shrinkage Cracks: Where shrinkage cracks are noted after compaction of the subgrade, the soil shall be rescarified and prepared as recommended above or be thoroughly moistened to close all cracks. Saturation and subsequent yielding of the exposed subgrade due to inclement weather and poor drainage may require over-excavation of the soft areas and replacement with well compacted engineered fill at no additional cost to the Owner.

6. Sloped Areas: The filling operations shall start at the lowest point and continue up in level horizontal compacted layers in accordance with these specifications.

7. Fill Slopes: All fill slopes shall be constructed by overfilling and cutting back to the design slope ratio to obtain a well compacted slope face. Water shall be diverted away from the top of slopes and slope planting shall be provided as soon as possible to reduce potential erosion of the finished slopes.

8. Required Compaction: Each lift shall be moisture conditioned to at least 2 percent above the optimum moisture and compacted to 90 percent relative compaction in accordance with ASTM D-1557-91. The surface shall be finished smooth to the required grade and cross section.

9. Tolerance: The finished surface shall not vary more than 0.10 foot above or below the grades and dimensions shown on the Construction Drawings.

3.06 SUBSURFACE TESTING

A. The probing and grouting program outlined in this section shall be implemented for all retaining walls, building foundations, and where indicated.

B. All subsurface probing and grouting shall be done with the approval of and the presence of the Special Inspector or Soils Engineer.

C. After the footing excavation has been completed to the elevation of bottom of the footing, the bottom of excavation shall be probed with drill holes to attempt to locate any cavities or loose pockets.

D. The probe holes should be 2" min. diameter and spaced near the center of each column footing and at a maximum of 10 feet on the centers along wall footings and thickened edge type foundations, shall be drilled down to a minimum depth of 10 feet below the bottom of the footing. This includes casing for caving, where required. Additional probe holes may be required if large cavities or voids are encountered.

E. The drill holes shall be filled with Controlled Low Strength Material (CLSM) to fill small voids and cavities that may not have been detected during the probing. The grout shall be pumped or discharged from the bottom of the probe hole. As an alternative to CSLM, a sand-cement grout with a slump of about 6 to 9 inches may be used for the grouting operations.

F. Grout the probe holes as follows:

1. If the quantity of CSLM exceeds 1 cubic yard, stop and let CSLM set up. After the CSLM has set, continue grouting for another cubic yard. Repeat if necessary.

2. Monitor the volume of CSLM pumped and use as a guide for additional probing or grouting.

3. If the cavity has not filled after about 3 cubic yards of CSLM has been pumped, the grouting operation shall be stopped. The conditions shall be evaluated by the Architect for further instruction for additional probing and grouting.

G. Bids shall be based on the quantities of probing and grouting indicated below. Should the quantities vary from that indicated, an adjustment in contract price will be made based on the bid unit prices. The following work and quantities shall be included in the Lump Sum Bid:

1. Drilling probe holes, including casing for caving, where required: 1,780 L.F.

2. Grouting probe holes and cavities detected during the probing: 593 C.Y.

H. The probing drill shall be available on site until the probing and grouting operations are completed.

3.07 BUILDING SLAB AREAS

A. Description: This section covers placement of fill in areas upon which buildings will be constructed. The lower and upper limits of fill under this section shall be the prepared existing ground and the bottom of building slab cushion, respectively.

1. Existing Ground to Bottom of 12-inch Capping Layer: The placement of fill from the prepared existing surface to the bottom of the 12-inch capping layer shall be as required in subsection 3.05.

a. Required Compaction: The finished subgrade shall be scarified to a depth of 8 inches, moisture conditioned to at least 2 percent above the optimum moisture and compacted to a minimum of 90 percent relative compaction in accordance with ASTM D-1557-91.

b. Tolerance: The finished subgrade upon which the 12-inch capping layer is to placed shall not vary more than 0.10 foot above or below the theoretical grade.

2. 12-inch Capping Layer: Where slabs-on-grades are to be placed for building construction, they shall be constructed on at least 12 inches of compacted non-expansive select granular fill material. The 12-inch layer below the slab subgrade level, i.e., bottom of slab cushion, shall be considered the capping layer. The capping layer shall extend a minimum of 2 feet beyond the perimeter of the proposed building.
   a. The material for the capping layer shall meet the requirements for select granular fill as described in section 2.05A.

   b. Select granular fill materials shall be moisture conditioned to above the optimum moisture, placed in level lifts not exceeding 8 inches in loose thickness, and compacted to a minimum of 95 percent relative compaction.

3.08 PROTECTION

A. Traffic: All unnecessary traffic shall be kept off the prepared subgrade. Should it become necessary to haul materials and aggregate over the prepared subgrade, the Contractor shall drag and roll the traveled way as frequently as may be necessary to remove ruts, cuts and breaks in the surface. The surface shall be brought up to grade, compacted and rolled smooth before placing the subsequent layer of specified material.

B. Weathered subgrade: Should the prepared subgrade become soft, spongy, or yielding due to the weather or excessive sprinkling, the Contractor shall at his own expense remove and replace the soft material or let it dry out sufficiently, then recompact the material to the required density and grade.

C. Where shrinkage cracks are noted after compaction of the subgrade, the soil shall be re-scarified to a minimum depth of 8 inches, moisture-conditioned to at least 2 percent above the optimum moisture, and compacted to a minimum of 90 percent relative compaction.

D. Saturation and subsequent yielding of the exposed subgrade due to inclement weather and poor drainage shall require over-excavation of the soft areas and replacement with well compacted engineered fill at no additional cost to the Owner.

3.09 CLEANING UP

A. Upon completion of the work of this Section, immediately remove all debris and excess earth materials from the site.

END OF SECTION

SECTION 07240 – EXTERIOR FINISH SYSTEM

PART 1- GENERAL

1.01 SUMMARY

A. The extent of exterior finish system is shown on the drawings and includes the following:

1. Hurricane Impact System with Sheathing Substrates Exterior Insulation Finish System (EIFS) for Large and Small Missile Impact vertical exterior wall sheathing.

2. Direct applied exterior finish system (DEFS) over exterior sheathing board for above grade masonry.

3. Exterior board sheathing for DEFS application.

B. Related Work Specified Elsewhere:

1. LEED Requirements: Section 01352 – LEED REQUIREMENTS.

2. Waste Management: Section 01524 – CONSTRUCTION WASTE MANAGEMENT.

3. Requirements specified by reference for sealing joints in system with elastomeric joint sealants: Section 07920 – SEALANTS.

4. Metal stud framing for walls and soffit work: Section 05400 – COLD-FORMED METAL FRAMING.

5. Entrances and Storefront: Section 08411 – ALUMINUM FRAMED ENTRACES AND STOREFRONT.

6. Exterior Windows: Section 08520 – ALUMINUM WINDOWS.

1.02 DEFINITIONS

A. Exterior Insulation Finish System (EIFS): Exterior Insulation Finish System refers to exterior assembly composed of a layer of primer, insulation board, mesh, base coat and a texture protective finish coating, directly applied to supporting *metal stud* ~~masonry~~ construction.

B. Direct Applied Exterior Finish System (DEFS): Direct Applied Exterior Finish System (DEFS) refers to exterior assembly composed of a layer of underlayment, exterior sheathing board and a textured protective finish coating, directly applied to masonry construction.

C. System manufacturer refers to the manufacturer of the exterior finish system.

1.03 SUBMITTALS

A. Submit in accordance with Section 01300 – SUBMITTALS.

B. Manufacturer's Data: Submit manufacturer's specifications, details, installation instructions and product data for each component of exterior finish systems.

C. EIFS Manufacturer's code compliance report: Miami-Dade County Building Code Compliance Office Notice of Acceptance (NOA).

D. Manufacturer's certificate of compliance with EIMA standards.

E. Applicator's certificate of instruction.

F. EPS board manufacturer's certificate of compliance with ASTM E 2430 Standard Specification for the use of Expanded Polystyrene (EPS) Insulation Board in External Insulation and Finish System (EIFS).

G. EIFS EPS board manufacturer's Miami –Dade County Product Approval Notice of Acceptance (NOA) certificate.

H. Shop Drawings: Submit shop drawings showing installation of system, including sections, details of components, and joint configurations between system and adjacent construction.

I. Certification: Certification of performance requirements shall include ICC reports.

J. Material Safety Data Sheets (MSDS): Submit MSDS for products used and keep one posted at the project site.

K. Samples: Submit samples for initial selection purposes in form of manufacturer's standard and custom color charts and small-scale samples indicating available textural choices. Upon selection, submit 4 each samples for verification purposes in the form of one-foot square panel each finish, color and texture specified. Prepare samples using same tools and techniques intended for actual work.

L. Sealant manufacturer's certificate of compliance with ASTM C 1382.

M. Warranty: Submit warranty as stipulated in item entitled "WARRANTY" herein below.

N. LEED Submittals:

1. Documentation indicating percentage of post-industrial and post-consumer recycled content per unit of product. Indicate dollar value of product.

2. LEED Documentation relative to regional materials credit in accordance with the LEED Reference Guide. Include in the LEED Documentation Notebook.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who is approved in writing by system manufacturer as qualified to install manufacturer's system.

B. Single-Source Responsibility: Obtain materials for system from either a single manufacturer or manufacturers approved by the system manufacturer as compatible with other system components. System manufacturer shall provide single source warranty for sheathing, finish, sealant, and all other system components.

C. Manufacturer shall be a member in good standing of the EIFS Industry Member Association (EIMA) and the system manufacturer for a minimum of twenty-five (25) years. Manufacturing facilities ISO 9001:2000 Certified Quality System.

D. EIFS Insulation board manufacturer shall be recognized by the manufacturer as capable of producing insulation board to meet system requirements, and holds a valid licensing agreement with the manufacturer. Label insulation board with information required by the manufacturer, the approved listing agency and the applicable building code.

E. Provide independent third party inspection where required by code or contract documents. Conduct inspections in accordance with code requirements and contract documents.

F. Contractor shall have engaged in application of DEFS and EIFS for a minimum of three (3) years and knowledgeable with the proper use and handling of the manufacturer's system.

G. Provide the proper equipment, manpower and supervision on the job site to install the system in compliance with the manufacturer's published specifications and details and the project plans and specification.

H. Provide independent third party inspection where required by code. Conduct inspections in accordance with code requirements and contract documents.

1.05 GENERAL SYSTEM PERFORMANCE REQUIREMENTS

A. Provide system complying with local codes, ICC evaluation report number and the following performance requirements:

1. Bond Integrity: Free from bond failure within system components or between system and supporting wall construction, resulting form exposure to fire, wind loads, weather, or other conditions.

2. Weather tightness: Resistant to water penetration from exterior into system and assemblies behind it or through them into interior of building.

3. Wind Design Pressure: ICC IBC 115 mph, Exposure C, Importance Factor 1.15.

1.06 EIFS PERFORMANCE REQUIREMENTS

A. Durability:

1. Accelerated Weathering Test: Method: ASTM G 153 and ASTM G 154. Criteria: No deleterious effects at 2000 hours when viewed under 5x magnification. Result shall pass at or exceed 5,000 hours for ASTM G 154.

2. Water Penetration Test: Method: EIMA 101.02. Criteria: No water penetration beyond the plane of the base coat/EPS board interface after 15 minutes at 6.24 psf of 20% of design wind pressure, whichever in greater. Result shall pass at or exceed 12.0 psf after 30 minutes.

3. Tensile Adhesion Test: Method ASTM E 2134. Criteria: No failure in the adhesive, base coat, or finish coat. Minimum 5 psi tensile strength before/after accelerated weathering and freeze/thaw exposure. Result shall pass.

4. Water Resistance Test: Method ASTM D 2247. Criteria: No deleterious effects at 14 day exposure. Result shall pass at or exceed 28 days.

5. Salt Spray Test: Method ASTM B 117. Criteria: No deleterious effects at 300 hours. Results shall pass at or exceed 500 hours.

6. Abrasion Resistance Test: Method ASTM D 968. Criteria: No cracking or loss of film integrity at 528 quarts of sand. Result shall pass at or exceed 1050 quarts of sand.

7. `Mildew Resistance Test: Method ASTM D 3273. Criteria: No growth supported during 28 day exposure period. Result shall pass at or exceed 42 days.

B. Fire:
1. Full Scale Diversified Fire Test: Method: ASTM E 108 (Modified). Criteria: No significant contribution to vertical or horizontal flame spread. Results shall pass.

2. Full Scale Multi-Story Fire Test: Method: NFPA 285. Criteria: 1. Resistance to vertical spread of flame within the core of the panel from one story to the next. 2. Resistance to flame propagation over the exterior surface. 3. Resistance to vertical spread of flame over the interior surface from one story to the next. 4. Resistance to significant lateral spread of flame form the compartment of the fire origin to adjacent spaces. Results shall pass.

3. Fire Endurance Test: Method: ASTM E 119. Criteria: No effect on fire resistance rating of wall assembly. Results shall pass.

4. Radiant Heat Ignition: Method: 2004 Florida Building Code Section 2605 NFPA 268. Criteria: No Sustained Flaming. Results shall pass.

C. Structural:
1. Impact Resistance Test: Method: FBC TAS 201. Criteria: Small Missile Impact. Result shall pass.

2. Wind Load: Method: FBC TAS 203. Criteria: Withstand negative and positive wind loads required by prevailing building code. Result shall meet or exceed +70, -70 psf (+3.4, -3.4 kPa). Design pressure per Miami-Dade County Building Code Compliance Office NOA #03-0527.12.

D. EIFS Component Performance:
   1. Durability:
      a. Alkali Resistance of Reinforcing Mesh Test: Method: ASTM E 2098. Criteria: Greater than 120 pli retained tensile strength. Result shall pass.

      b. Physical properties and Requirements for EPS Board Test: Method: ASTM E 2430. Criteria: Comply with ASTM E 2430. Result shall pass.

   2. Fire:
      a. Surface Burning Test: Method: ASTM E 84. Criteria: Adhesive, insulation board, finish coat each have a flame spread of 25 or less and smoke developed of 450 or less. Result shall pass.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver products in original, unopened packages and containers with manufacturer's labels identifying products legible and intact.

B. Store materials inside and under cover; keep them dry and protected from the weather, direct sunlight, surface contamination, aging, corrosion, damaging temperatures, damage from construction traffic and other causes.

C. Stack exterior sheathing boards inside and protected, flat and off the ground. Protect ends, edges, and faces of boards from damage.

D. Protect coatings (pail products) from freezing and temperatures in excess of 90 degrees F. Store away from direct sunlight.

E. Protect Portland cement based materials (bag products) from moisture and humidity. Store under cover and off the ground in a dry location.

F. Handle manufactured materials as recommended by the manufacturer.

1.08 SEQUENCING AND SCHEDULING

A. General:
   1. Sequence installation of system with related work specified in other sections to ensure that wall assemblies, including flashing, trim, and joint sealers, are protected against damage from weather, aging, corrosion, or other causes.

   2. Install window and door head flashing immediately after windows and doors are installed.

   3. Install diverter flashings wherever water can enter the wall assembly to direct water to the exterior.

   4. Provide site grading such that Exterior Finish System terminates above finished grade a minimum of 8 inches or as required by code.

   5. Provide protection of rough openings before installing windows, doors, and other penetrations through the wall and provide sill flashing.

6. Install copings and sealant immediately after installation of the Exterior Finish system and when Exterior Finish System coatings are dry.

7. Attach penetrations through EIFS to structural support and provide water tight seal at penetrations.

1.09 WARRANTY

A. Submit original and copies of a properly executed manufacturer's standard warranty upon final completion of the project.

B. Work under this section shall be warranted against defects in materials and workmanship for a period of 5 years from date of Project Final Acceptance Date. Written warranty shall include materials and labor required to repair deficiencies. Efflorescence removal and uniform color restoration during the initial 12 months of this warranty will be provided as part of this warranty at no additional cost to the State.

C. The Surety shall not be liable beyond 2 years of the project acceptance date.

PART 2 - PRODUCT

2.01 MANUFACTURERS

A. Provide DEFS and EIFS and accessories from single source manufacturer or approved supplier.

B. Subject to compliance with requirements, provide exterior finish system of Dryvit Systems, Inc., STO Corp., Sonneborn, Parex, Inc. or approved equal.

2.02 MATERIALS AND FINISHES

A. Compatibility: Provide adhesive, exterior sheathing board, reinforcing fabrics, base, leveler, and finish coat materials, sealants, and accessories that are compatible with one another and approved for use by system manufacturer. Base and finish coats shall not contain metal products or aggregates which may rust. Provide only crushed marble, quartz silica, or calcareous type sand for aggregate fillers.

B. Colors and Textures of Protective Coating: Provide selection made by the Architect from manufacturer's full range of textures in colors for type of finish coat indicated.

C. (DEFS) Exterior Sheathing Board: ASTM C 1177/C 1177M, "Glass Mat Gypsum Substrate for Use as Sheathing", 5/8-inch thickness, Type X (Special Fire Retardant), equal to Georgia Pacific DensGlass Gold Board, CertainTeed GlasRoc, or approved equal as recommended by the system manufacturer.

D. (DEFS) Base Coat: One component polymer modified cementitious base coat with fiber reinforcement as recommended by the system with fiber reinforcement as recommended by the system manufacturer.

E. Exterior finish (Protective Coating): Provide finish as indicated equal to Sto Silco Lit 1.0 finish.

F. Other Materials: All other materials not specifically listed herein-in, but required for the successful installation of the work included, are subject to approval.

2.03 ADHESIVE

A. Cementitious Adhesives:
   1. One component, polymer-modified, cement based, factory blend adhesive (not recommended over wood surfaces).

2.04 EIFS INSULATION BOARD

A. Nominal 1.0 lb/ft3 Expanded Polystyrene (EPS) Insulation Board in compliance with ASTM E 2430. (Note: minimum required thickness is 1-inch and maximum allowable thickness is typically 4-inches unless thicker dimensions are approved by the code official.)

B. EPS provided from Miami-Dade County approved manufacturer.

2.05 EIFS BASE COAT

A. Cementitious Base Coats:
   1. One component polymer modified cementitious base coat with fiber reinforcement as recommended by the system manufacturer.

2.06 REINFORCING MESHES

A. High-Impact Mesh: Provide high-impact mesh as indicated equal to Sto Armor Mat XX – nominal 20 oz/ square yards, symmetrical, interlaced open-weaved glass fiber fabric made with alkaline resistant coating for compatibility with manufacturer's system materials (achieves Ultra-High Impact Classification, for use up to 6-ft above finished grade or in other areas subjected to high traffic or incidental impacts.)

2.07 PRIMER

A. Acrylic based tinted primer with sand texture.

B. Smooth primer- acrylic based, sprayable smooth tinted primer.

2.08 FINISH COAT

A. Finish Coat: Provide finish as indicated equal to Stolit – acrylic based textured wall coating with graded marble aggregate.

2.09 JOB MIXED INGREDIENTS

A. Water: Clean and Potable.

2.10 MIXING

A. General: Comply with system manufacturer's requirements for combining and mixing materials. Do not introduce admixtures, water, or other materials except as approved by system manufacturer. Mix material in clean containers. Mix only as much material as can readily be used. Use material within time period specified by system manufacturer or discard.

2.11 MECHANICAL FASTENERS ASSEMBLIES

A. System manufacturer's standard corrosion-resistant fastener assemblies selected for properties of pull-out, tensile, and shear strength required to resist design loads of application indicated, capable of resisting pulling fastener head below surface of sheathing board. For attachment to metal stud substrate, provide steel corrosion resistant screws complying with ASTM C 1002. "Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs", Type S or as approved by the manufacturer. Screws for structural studs shall conform to ASTM C 954, "Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033-inch to 0.112-inch in Thickness."

2.12 WEATHER BARRIER UNDERLAYMENT

A. Weather Barrier and secondary weather resistive membrane, when applied on exterior wall. "Tyvek StuccoWrap" as manufactured by DuPont Co., Rufco-Wrap by Raven Industries, Type-65 Standard Grade by Griffolyn Reinforced Vapor Barrier, Jumbo Tex by Fortifiber Corp., MOLD Blocker Housewrap by PRO Installer, or approved qual. Provide with DuPont FlexWrap, StraightFlash, and Tyvek Tape as required. Material shall be Class A tested in accordance with the procedures of ASTM E 84.

2.13 MISCELLANEOUS MATERIALS

A. Accessories: All trims shall be vinyl conforming to ASTM D 1784, "Rigid Ply (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds", and ASTM C 1047, "Accessories for Gypsum Wallboard and Gypsum Veneer Base", Vinyl Corp., Plastic Components Inc., Vinyl Tech or as approved by the system manufacturer as indicated.
   1. Casing Bead: Vinyl Corp. DE/CS58-16.

   2. Drip Screed: Vinyl Corp. DCS58-50.

B. Special Tools: Provide special tools for wrapping and forming mesh into joints and reveals without tearing mesh. Provide other special tools as recommended by the System manufacturer.

2.14 ELASTOMERIC SEALANTS

A. Sealant Products: Provide manufacturer's standard non-staining, quick drying, chemically curing, One-part Nonsag Urethane, elastomeric sealant conforming to ASTM C 920, Type S, Grade NS, Class 25, Use NT, that is compatible with joint fillers, joint substrates, and other related materials and complies with requirements of Section 07920- SEALANTS. Sealants shall be recommended by both the sealant and exterior finish system manufacturer.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Before the work is started, the Exterior Finish System Installer, together with the Contractor and the Project Coordinator shall examine the surfaces onto which

systems are to be applied. Should any condition be found unsuitable, no work shall be done until the unsatisfactory condition has been corrected and is acceptable to the Exterior Finish System Installer. Report deviations from the requirements of project specifications or other conditions that might adversely affect the installation to the General Contractor. Do not start work until the deviations are corrected. Proceeding with the work will imply acceptance of the conditions by the Exterior Finish System Installer.

B. Inspect sheathing application for compliance with applicable requirement.
   1. *Fiber-reinforced gypsum sheathing Dens Glass Gold Sheathing, or as required by an approved manufacturer to meet design requirements.*

3.02 PREPARATION

A. Protect contiguous work from moisture deterioration and soiling resulting from application of systems. Provide temporary covering and other protection needed to prevent spattering of exterior finish coatings on other work.

B. Protect system, substrates, and wall construction behind them from inclement weather during installation. Prevent infiltration of moisture behind system and deterioration of substrates.

C. All substrate surfaces shall be unpainted, clean, dry, structurally sound and free of dirt, dust, chalk, mildew, algae, efflorescence or foreign materials which would adversely affect the adhesion of coatings.

3.03 GENERAL INSTALLATION

A. General: Comply with system manufacturer's current published instructions for installation of system as applicable to type of substrate indicated. Provide profiles as indicated. Provide special tools as recommended by the manufacturer.

B. Mechanically attach exterior sheathing board over underlayment to wall framing with recommended non-corrosive fasteners.
   1. Cut exterior sheathing board to fit corners, projections, and reveals precisely and to produce edges and shapes conforming to details indicated. Offset sheathing joints a minimum of 8-inches from all corners and openings.

   2. Form joints for sealant application by leaving 3/8-inch gaps of width needed between adjoining sheathing edges as well as between sheathing edges and dissimilar adjoining surfaces.

   3. Install control joints between boards where indicated on drawings, and horizontally at floor lines.

   4. Install vinyl trim at exposed edges and corners of exterior sheathing board in accordance with manufacturer's standards and specific recommendations.

C. Apply base coat to exterior sheathing board in minimum thickness specified by system manufacturer and embed in high-impact mesh and trowel smooth to a uniform thickness as recommended by the manufacturer. Provide additional reinforcement at all corners. Work horizontally or vertically in strips of 40 inches,

and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Butt the mesh at seams. Allow base coat to dry.

D. Joints between Dissimilar Substrates and at Terminations of Finish System: Minimum 3/8-inch wide. All edges of sheathing shall be protected with vinyl trim in a manner to facilitate sealing. Install backer rod with 25% compression in joint, leaving approximately ¼-inch deep void for sealant. Apply continuous sealant bead in joint, and tool slightly concave to provide tight adhesion. Allow sealant to cure before proceeding with typical primer and finish coat.

E. Apply finish coat over cured and primed base coat in thickness required by system manufacturer to produce a uniform finish of texture and color, matching approved sample.

3.04 EIFS INSTALLATION

A. Apply base coat over the Dens Glass Gold sheathing and embed Sto Armor Mat 20xxx reinforcing mesh with a stainless steel trowel to a uniform thickness of approximately 1/8-inch (3mm) work horizontally or vertically in strips of 40 inches (1016 mm), and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Butt the mesh at seams. Allow the base coat to dry.

B. ~~A.~~ Backwrapping:

1. Apply a strip of detail mesh to the substrate at the base of the wall and at all system terminations (window, doors, expansion joints, etc.). The mesh must be wide enough to adhere approximately 4 inches of mesh onto the wall, be able to wrap around the insulation board edge and cover a minimum of 2-1/2 inches on the outside surface of the insulation board. Adhere mesh strips to the supporting substrate and allow them to dangle until the backwrap procedure is completed.

C. ~~B.~~ Adhesive Application and Installation of Insulation Board:

1. Apply adhesive to the back of the insulation board with the proper size stainless steel notched trowel. Apply uniform ribbons of adhesive horizontal or vertically.

2. Start at base of wall from a level line. Immediately place insulation boards in a running bond pattern on the wall with the long dimension horizontal. Apply firm pressure over the entire surface of the boards to ensure uniform contact of adhesive. Bridge sheathing joints by a minimum of 6 inches. Interlock inside and outside corners.

3. Butt all board joints tightly together to eliminate any thermal breaks in the EIFS. Care must be taken to prevent any adhesive from getting between the joints of the boards. Cut insulation board in an L-shaped pattern to fit around openings. Do not align board joints with corners of openings.

4. Remove individual boards periodically while the adhesive is still wet to check for satisfactory contact with the substrate and the back of the insulation board. An equal amount of adhesive must be on the substrate and the board when they are removed, as an indication of adequate adhesion. Do not use nails, screws, or any other type of non-thermal mechanical fastener.

D. ~~C.~~ Slivering and Rasping of Insulation Board Surface:

1. After insulation boards are firmly adhered to the substrate, fill any open joints in the insulation board layer with slivers of insulation or approved spray foam.

2. Rasp the insulation board surface to achieve a smooth, even surface and to remove any ultraviolet ray damage.

E. ~~D.~~ Trim, Reveals and Projecting Aesthetic Features:

1. Attach features and trim where designated on drawings with adhesive to the insulation board or sheathing surface. Slope the top surface of all trim/feature minimum 1:2 and the bottom of all horizontal reveals minimum 1:2.

2. Cut reveals/aesthetic grooves with a hot-knife, router or groove-tool in locations indicated on drawings.

3. Offset reveals/aesthetic grooves minimum 3 inches from insulation board joints.

4. Do not locate reveals/aesthetic grooves at high stress areas such as corners of windows, doors, etc.

5. A minimum ¾ inch thickness of insulation board must remain at the bottom of the reveals/aesthetic grooves.

F. ~~E.~~ Completion of Backwrapping:

1. Complete the backwrapping procedure by applying base coat to exposed edges of insulation board and approximately 4 inches onto the face of the insulation board. Pull mesh tight around the board and embed it in the base coat with a stainless steel trowel. Use a corner trowel for clean, straight lines, smooth any wrinkles or gaps in the mesh.

G. ~~F.~~ Base Coat and Reinforcing Mesh Application

1. Apply minimum 9x12 inch diagonal strips of detail mesh at corners of windows, doors, and all penetrations through the system. Embed the strips in wet base coat and trowel from the center to the edges of the mesh to avoid wrinkles.

2. Apply detail mesh at trim, reveals and projecting architectural features. Embed the mesh in the wet base coat. Trowel from the base of reveals to the edges of the mesh.

3. Ultra-High impact mesh application: apply base coat over the insulation board with a stainless steel trowel to a uniform thickness of approximately 1/8-inch. Work horizontally or vertically in strips of 40 inches, and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Allow the base coat to dry.

4. Standard mesh application: Apply base coat over the insulation board, including areas with Ultra-High impact mesh, with a stainless steel trowel to a uniform thickness of approximately 1/8 inch. Work horizontally or vertically in strips of 40 inches, and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Overlap mesh not less than 2-1/2 inches at mesh seams and at overlaps of detail mesh. Feather seams and edges. Double wrap all inside and outside corners with minimum 2-1/2 inch overlap in each direction. Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through the base coat when it is dry. Re-skim with additional base coat if mesh color is visible.

5. Sloped Surfaces: for trim, reveals, aesthetic bands, cornice profiles, sills or other architectural features that project beyond the vertical wall plane more than 2 inches apply waterproof base coat with a stainless steel trowel to the weather exposed sloped surface and minimum four inches above and below it. Embed standard mesh or detail mesh in the waterproof base coat and overlap mesh seam a minimum of 2-1/2 inches.

6. Allow base coat to thoroughly dry before applying primer or finish.

H. ~~G.~~ Primer Application
1. Apply primer evenly with brush, roller or proper spray equipment over the clean, dry base coat and allow to dry thoroughly before applying finish.

I. ~~H.~~ Finish Coat Application
1. Apply finish directly over the base coat (or primed base coat) when dry. Apply finish by spraying or troweling with a stainless steel trowel, depending on the finish specified. Follow these general rules for application of finish:
   a. Avoid application in direct sunlight.

   b. Apply finish in a continuous application, and work to an architectural break in the wall.

   c. Weather conditions affect application and drying time. Hot or dry conditions limit working time and accelerate drying. Adjustments in the scheduling of work may be required to achieve desired results; cool or damp conditions extend working time and retard drying and may require added measures of protection against wind, dust, dirt, and rain. Adjust work schedule and provide protection.

   d. Do not install separate batches of finish side-by-side.

   e. Do not apply finish into or over sealant joints. Apply finish to outside face of wall only.

f. Do not apply finish over irregular on unprepared surfaces, or surfaces not in compliance with the requirements of the project specifications.

3.05 REINFORCING FABRIC

A. Fully embed reinforcing fabric of type indicated in wet base coat to produce wrinkle-free installation with fabric continuous at corners and lapped or otherwise treated at joints to comply with system manufacturer's requirements. Standard reinforcing fabric unless otherwise indicated.

3.06 INSTALLATION OF JOINT SEALANTS

A. Prepare joints and apply sealants, of type and at locations indicated, to comply with applicable requirements of Section 07920 – SEALANTS, and system manufacturer.

3.07 CLEANING AND PROTECTION

A. Remove temporary covering and protection of other work. Promptly remove protective coatings from roof and walls and any other surfaces outside areas indicated to receive exterior finish system coating. Remove the mock-up from the project site.

B. Provide final protection and maintain conditions in a manner acceptable to Installer and system manufacturer that ensure system's being without damage or deterioration at time of Substantial Completion.

END OF SECTION

EXHIBIT A

(EIFS CONTRACTOR NAME)

Completion Date: _____

THE EXTERIOR INSULATION FINISH SYSTEM (EIFS) INSTALLED ON THE STRUCTURE LOCATED AT THE ADDRESS INDICATED BELOW:

(_____) CONFORMS (_____) DOES NOT CONFORM

TO (EIFS MANUFACTURER NAME) RECOMMEND INSTALLATION PRACTICES AND SECTION(S) _____ OF BUILDING CODE, REPORT NO. _____.

Address of Structure:
_____
_____
_____

Product Component Names:
Fasteners (mech) _____
Base Coat _____
Reinforcing Fabric _____
Finish Coat(s) _____

	INSTALLATION	CONFORMS	DOES NOT CONFORM
A.	Substrate Type and Tolerance	_____	_____
B.	EFS		
1.	Fasteners	_____	_____
2.	Reinforcing Fabric	_____	_____
3.	Base Coat	_____	_____
4.	Finish	_____	_____

C. The information entered above is offered in testimony that the EIFS installation conforms with the EIFS manufacturer's installation methods and procedures, and the EIFS manufacturer's ES report.

NOTE: An installation card shall be received from the Sealant Installer indicating that the sealant installation conforms with the EIFS evaluation report and sealant manufacturer's installation methods and procedures must accompany this declaration.

EIFS Contractor Company Name and Address:

_____
_____
_____
_____

Signature of Responsible Officer: _____
Typed Name and Title of Officer: _____
Telephone Number (____) _____

Cc: Original: Project Coordinator (Must be submitted with
Copy: EIFS Manufacturer installer declaration)

EXHIBIT B

(SEALANT INSTALLER NAME)

Completion Date: _____

THE SEALANT INSTALLED IN CONJUNCTION WITH EXTERIOR INSULATION FINISH SYSTEM (EIFS) INSTALLED ON THE STRUCTURE LOCATED AT THE ADDRESS INDICATED BELOW:

(_____) CONFORMS (_____) DOES NOT CONFORM

TO (EIFS MANUFACTURER NAME) AND (SEALANT MANUFACTURER'S NAME RECOMMEND INSTALLATION PRACTICES AND SECTION(S) _____ OF BUILDING CODE, REPORT NO. _____.

Address of Structure:
_____
_____
_____

Product Component Names:
Primers (S) _____
Sealers _____
Bond Breakers _____
Sealant Materials _____

	INSTALLATION	**CONFORMS**	**DOES NOT CONFORM**
A.	**Designer's requirements, details and instructions**	_____	_____
B.	**Sealant manufacturer's details and requirements**	_____	_____
C.	**Exterior (EIFS) manufacturer's requirements**	_____	_____

D. The information entered above is offered in testimony that the Sealant installation conforms with the sealant manufacturer's installation methods and procedures, and the EIFS manufacturer's ES report.

Sealant Installer Company Name and Address:

_____
_____
_____
_____

Signature of Responsible Officer: _____
Typed Name and Title of Officer: _____
Telephone Number (____) _____

Cc: Original: Project Coordinator
Copy: EIFS Manufacturer
EIFS Contractor
Sealant Manufacturer

(Must be submitted with installer declaration)

SECTION 08710 – FINISH HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Finish Hardware for door openings, except as otherwise specified herein.

1. Door hardware for steel (hollow metal) doors.

2. Door hardware for aluminum doors.

3. Door hardware for wood doors.

4. Door hardware for other doors indicated.

5. Cylinders as indicated.

B. Related Sections:

1. Section 01352 – LEED REQUIREMENTS

2. Section 01524 – CONSTRUCTION WASTE MANAGEMENT

3. Section 05500 – METAL FABRICATION.

4. Section 06100 – ROUGH CARPENTRY.

5. Section 08110 – STEEL DOORS AND FRAMES.

6. Section 08140 – WOOD DOORS.

7. Section 08441 – ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS.

8. Coordinate the work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware.

~~1. Division 5: Metal Fabrication.~~

~~2. Division 6: Rough Carpentry.~~

~~3. Division 8: Aluminum Doors and Frames~~

~~4. Division 8: Hollow Metal Doors and Frames.~~

~~5. Division 8: Wood Doors.~~

~~6. Coordinate the work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware.~~

C. References: Comply with applicable requirements of the following standards. Where these standards conflict with other specific requirements, the most restrictive shall govern.
   1. Builders Hardware Manufacturing Association (BHMA)

   2. NFPA 101 Life Safety Code

   3. NFPA 80 - Fire Doors and Windows

   4. ANSI-A156.xx - Various Performance Standards for Finish Hardware

   5. UL10C – Positive Pressure Fire Test of Door Assemblies

   6. ANSI-A117.1 – Accessible and Usable Buildings and Facilities

   7. DHI /ANSI A115.IG – Installation Guide for Doors and Hardware

D. Intent of Hardware Groups
   1. Should items of hardware not definitely specified be required for completion of the Work, furnish such items of type and quality comparable to adjacent hardware and appropriate for service required.

   2. Where items of hardware aren't definitely or correctly specified, are required for completion of the Work, a written statement of such omission, error, or other discrepancy to Architect, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by this specification, and appropriate to the service intended.

E. Weatherstripping for exterior doors.

F. Suppliers proposing substitutes of equivalent products of other than the manufacturers named shall submit schedules listing the project and manufacturer specified and the product and manufacturer of proposed substitute. This schedule shall be submitted in accordance with the GENERAL CONDITIONS.

1.02 SUBMITTALS

A. Submit in accordance with **Section 01300 – SUBMITTALS**.

B. Special Submittal Requirements: Combine submittals of this Section with Sections listed below to ensure the "design intent" of the system/assembly is understood and can be reviewed together.

C. Product Data: Manufacturer's specifications, descriptive literature and technical data including the following:
   1. Detailed specification of construction and fabrication.

   2. Manufacturer's installation instructions.

3. Submit 6 copies of catalog cuts with hardware schedule.

4. Provide 9001-Quality Management and 14001-Environmental Management for products listed in Materials Section 2.2

D. Shop Drawings - Hardware Schedule: Submit 6 complete reproducible copy of detailed hardware schedule in a vertical format.
   1. List groups and suffixes in proper sequence.

   2. Completely describe door and list architectural door number.

   3. Manufacturer, product name, and catalog number.

   4. Function, type, and style.

   5. Size and finish of each item.

   6. Mounting heights.

   7. Explanation of abbreviations and symbols used within schedule.

E. Templates: Submit templates and "reviewed Hardware Schedule" to door and frame supplier and others as applicable to enable proper and accurate sizing and locations of cutouts and reinforcing. Upon request, check shop drawings to confirm that adequate provisions are made for proper location and installation of hardware.

F. Keying Schedule: Submit a keying schedule for approval by the Project Coordinator; using keying nomenclature as listed in ANSI/BHMA A156.28, “Keying Systems”. Door designation listed in the Keying Schedule shall be same as those used on Drawings and Hardware Schedule. Keying of locks shall be as directed by the Project Coordinator.

G. Samples: ~~(If requested by the Architect)~~
   1. 1 sample of Lever and Rose/Escutcheon design, (pair).

   2. 3 samples of metal finishes

H. Contract Closeout Submittals: Comply with Division 1 including specific requirements indicated.
   1. Operating and maintenance manuals: Submit 3 sets containing the following.
      a. Complete information in care, maintenance, and adjustment, and data on repair and replacement parts, and information on preservation of finishes.

      b. Catalog pages for each product.

      c. Name, address, and phone number of local representative for each manufacturer.

      d. Parts list for each product.

2. Copy of final hardware schedule, edited to reflect, "As installed".

3. Copy of final keying schedule

4. Furnish one set of special tools required for maintenance and adjustment of hardware, including changing of cylinders. Furnish maintenance instructions applicable to each different or special hardware components.

I. Certification: After completion and inspection by hardware supplier of all construction work, certify on an approved form, that all items of finish hardware have been adjusted and are working properly.

J. Warranty: Submit warranty as stipulated in item entitled “WARRANTY” herein below.

K. LEED Submittals:

1. Documentation indicating percentage of post-industrial and post-consumer recycled content per unit of product. Indicate dollar value of product.

2. LEED documentation relative to recycled content materials credit in accordance with the LEED Reference Guide. Include in the LEED Documentation Notebook.

1.03 QUALITY ASSURANCE

A. Comply with Division 1.

1. Statement of qualification for distributor and installers.

2. Statement of compliance with regulatory requirements and single source responsibility.

3. Distributor's Qualifications: Firm with 3 years experience in the distribution of commercial hardware.
   a. Distributor to employ full time Architectural Hardware Consultants (AHC) for the purpose of scheduling and coordinating hardware and establishing keying schedule.

   b. Hardware Schedule shall be prepared and signed by an AHC.

4. Installer's Qualifications: Firm with 3 years experienced in installation of similar hardware to that required for this Project, including specific requirements indicated.

5. Regulatory Label Requirements: Provide testing agency label or stamp on hardware for labeled openings.
   a. Provide UL listed hardware for labeled and 20 minute openings in conformance with requirements for class of opening scheduled.

b. Underwriters Laboratories requirements have precedence over this specification where conflict exists.

6. Single Source Responsibility: Except where specified in hardware schedule, furnish products of only one manufacturer for each type of hardware.

B. Perform work in accordance with Americans with Disabilities Act Accessibility Guidelines ADAAG Section 4.1.3(7), NFPA 80, “Fire Doors and Fire Windows”, NFPA 101, “Life Safety Code”, UL10C, “Fire Tests of Door Assemblies”, NFPA 252, “Fire Tests of Door Assemblies”, and ICC IBC as applicable. Each door that is an element of an accessible route shall comply with ADAAG Section 4.13 and shall be mounted no higher than 48-inches above finish floor.

C. Protected Openings: Finish Hardware for exterior doors or doors that define the limits of the protected area shall conform to impact resistance of current ICC IBC, amended for large missile test of ASTM E 1996, “Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes”, minimum missile level D for wind pressures as indicated.

D. Hardware for protect openings shall conform with ANSI A250.13, “Testing and Rating for Severe Windstorm Resistant Components for Swinging Door Assemblies”.

E. Windstorm Rated Finish Hardware – Regulatory Label Requirements: Provide UL testing agency label or stamp on hardware for windows rated labeled openings. Where UL requirements conflict with drawings or specifications, hardware conforming to UL requirements shall be provided. Conflicts and proposed substitutions shall be clearly indicated in door submittals and hardware schedule. Certification(s) of compliance shall be made available upon request by the Project Coordinator.

F. Hardware Supplier Personnel: Employ an experienced Architectural Hardware Consultant (AHC), or Project Coordinator accepted equal, who is available at reasonable times during the course of the Work, to the Project Coordinator and Contractor for consultation about Project’s hardware requirements, to verify specified hardware with door function and hardware finishes, and to establish keying system.

G. Review Project for extent of finish hardware required to complete the Work. Where there is a conflict between these Specifications and the existing hardware, notify the Architect in writing and furnish hardware in compliance with the Specification unless otherwise directed in writing by the Architect.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping: Comply with Division 1.

1. Inventory hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.

2. Deliver products in original unopened packaging with legible manufacturer's identification.

3. Package hardware to prevent damage during transit and storage.

4. Mark hardware to correspond with "reviewed hardware schedule".

5. Deliver hardware to door and frame manufacturer upon request.

6. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

B. Storage and Protection: Comply with manufacturer's recommendations.

C. Deliver permanent keys to the Project Coordinator by security shipment direct from hardware manufacturer.

D. Provide secure lock-up for hardware delivered to project but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the Work will not be delayed by hardware losses, both before and after installation. Handle manufactured materials as recommended by the manufacturer.

1.05 PROJECT CONDITIONS

A. Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for the proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents.

B. Review Shop Drawings for doors and entrances to confirm that adequate provisions will be made for the proper installation of hardware.

1.06 WARRANTY

A. Refer to Conditions of the Contract.

B. Manufacturer’s Warranty: Where longer warranty is standard with the manufacturer, furnish the longer warranty.

1. Closers: Ten years

2. Exit Devices: Three Years

3. Locksets & Cylinders: Three years

4. All other Hardware: Two years.

C. The Surety shall not be liable beyond 2 years of the project acceptance.

D. Warranty shall be from date of final acceptance.

1.07 PROJECT RECORD DOCUMENTS

A. Record actual locations of installed cylinders and their master key code.

1.08 OWNER'S INSTRUCTION

A. Instruct Owner's personnel in operation and maintenance of hardware units.

B. Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

1.09 MAINTENANCE

A. Extra Service Materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals Section.

1. Special Tools: Provide special wrenches and tools applicable to each different or special hardware component.

2. Maintenance Tools: Provide maintenance tools and accessories supplied by hardware component manufacturer.

3. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra service materials.

B. Maintenance Service: Submit for Owner's consideration maintenance service agreement for electronic products installed.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of door hardware is indicated in HARDWARE GROUPS at end of this section. Products are identified by using proprietary catalog numbers, and are used to establish quality and function of products desired.

B. The following manufacturers are approved subject to compliance with requirements of the Contract Documents. Approval of manufacturers other than those listed shall be in accordance with Division 1.

Item	Manufacturer	Approved
Hinges	Stanley	
Continuous Hinges	Stanley	
Locksets	Best	
Cylinders	Schlage	
Exit Devices	Precision	
Closers	Stanley D-4550	
Push/Pull Plates	Trimco	
Push/Pull Bars	Trimco	
Protection Plates	Trimco	
Overhead Stops	ABH	
Door Stops	Trimco	
Flush Bolts	Trimco	
Coordinator & Brackets	Trimco	
Threshold & Gasketing	National Guard	

2.02 MATERIALS

A. Hand of Door: Drawings show direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of indicated door.

B. Base Metals: Produce hardware units of basic metal and forming method specified, using manufacturer's standard metal alloy, composition, temper and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units by applicable ANSI/BHMA A156 series standard for each type hardware item and with ANSI/BHMA A156.18 for finish designations indicated. Do not furnish optional materials or forming methods for those indicated, except as otherwise specified.

C. Expansion shields in concrete or masonry shall fill the depth and diameter drilled holes.

D. Hinges: Shall be Five Knuckle Ball bearing hinges
1. Template screw hole locations

2. Bearings are to be fully hardened.

3. Bearing shell is to be consistent shape with barrel.

4. Minimum of 2 permanently lubricated non-detachable bearings on standard weight hinge and 4 permanently lubricated bearing on heavy weight hinges.

5. Equip with easily seated, non-rising pins.

6. Non Removable Pin screws shall be slotted stainless steel screws.

7. Hinges shall be full polished, front, back and barrel.

8. Hinge pin is to be fully plated.

9. Bearing assembly is to be installed after plating.

10. Sufficient size to allow 180-degree swing of door

11. Furnish five knuckles with flush ball bearings

12. Provide hinge type as listed in schedule.

13. Furnish 3 hinges per leaf to 7 foot 6 inch height. Add one for each additional 30 inches in height or fraction thereof.

14. Certified by BHMA for all applicable ANSI Standards for type, size, function and finish

15. UL10C listed for Fire.

16. Furnish Phillips flat head or machine screws for installation of units, except furnish Phillip flat head or wood screws for installation of units into wood. Finish Screw heads to match surface of hinges.

E. Geared Continuous Hinges:
1. Certified by BHMA for ANSI A156.26 Grade 1

2. Anti-spinning through fastener

3. UL10C listed for 3 hour Fire rating

4. Non-handed

5. Lifetime warranty

6. Provide Fire Pins for 3-hour fire ratings

7. Sufficient size to permit door to swing 180 degrees

F. Cylindrical Type Locks and Latchsets:
1. Tested and approved by BHMA for ANSI A156.2, Series 4000, Operational Grade 1, Extra-Heavy Duty, and be UL10C listed.

2. Provide 9001-Quality Management and 14001-Environmental Management.

3. Fit modified ANSI A115.2 door preparation.

4. Locksets to have anti-rotational studs that are thru-bolted

5. Keyed lever shall not have exposed “keeper” hole

6. Each lever to have independent spring mechanism controlling it

7. 2-3/4 inch (70 mm) backset

8. 9/16 inch (14 mm) throw latchbolt

9. Outside lever sleeve to be seamless, of one-piece construction made of a hardened steel alloy

10. Keyed lever to be removable only after core is removed, by authorized control key

11. Provide locksets for 6-pin removable and interchangeable core cylinders

12. Hub, side plate, shrouded rose, locking pin to be a one-piece casting with a shrouded locking lug.

13. Locksets outside locked lever must withstand minimum 1400 inch pounds of torque. In excess of that, a replaceable part will shear. Key from outside and inside lever will still operate lockset.

14. Core face must be the same finish as the lockset.

15. Functions and design as indicated in the hardware groups.

16. Keys: Provide 4 keys per lock with 2 keys stamped with bitting number and 2 without bitting stamping. All keys shall be stamped "DO NOT DUPLICATE" at the point of manufacture. All locks shall be construction master keyed ~~with construction removable cores~~. Provide minimum 10 construction master keys, 4 control keys for removable core, 6 master keys per set, and 2 key blanks (stamped) per cylinder.

G. Permanent Keying Instructions:
   1. All new locks shall be keyed as directed by the Project Coordinator.

   2. Prior to acceptance of the keys, the Contractor shall remove the construction cores and install the operational cores and together with the Project Coordinator shall inspect each lock with the cut keys and building Grand Master Key.

   3. Upon acceptance of the project, the Contractor shall arrange for temporary keys, obtained from custodian if further access is required.

H. Cylindrical Deadbolt:
   1. Tested and approved by ANSI A156.5, Operational Grade 1,

   2. Fit modified ANSI A115.3 door preparation

   3. Provide 9001-Quality Management and 14001-Environmental Management.

4. 2-3/4 inch (70mm) backset

5. 1 inch throw deadbolt

6. Provide locksets with 6-pin core.

I. Mortise Deadbolt:
1. Tested and approved by ANSI A156.5, Operational Grade 1.

2. Provide 9001-Quality Management and 14001-Environmental Management.

3. 2-3/4 inch (70mm) backset

4. 1 inch throw deadbolt

5. Provide locksets with 6-pin core.

J. Exit Devices shall:
1. Tested and approved by BHMA for ANSI 156.3, Grade 1

2. Provide 9001-Quality Management and 14001-Environmental Management.

3. Furnish UL or recognized independent laboratory certified mechanical operational testing to 9 million cycles minimum.

4. Provide a deadlocking latchbolt

5. Non-fire rated exit devices shall have cylinder dogging.

6. Touchpad shall be “T” style

7. Exposed components shall be of architectural metals and finishes.

8. Lever design shall match lockset lever design

9. Provide strikes as required by application.

10. Fire exit devices to be listed for UL10C

11. UL listed for Accident Hazard

12. Shall consist of a cross bar or push pad, the actuating portion of which extends across, shall not be less than one half the width of the door leaf.

13. Provide vandal resistant or breakaway trim

K. Cylinders:
   1. Provide the necessary cylinder housings, collars, rings & springs as recommended by the manufacturer for proper installation.

   2. Provide the proper cylinder cams or tail piece as required to operate all locksets and other keyed hardware items listed in the hardware sets.

   3. Coordinate and provide as required for related sections.

L. Door Closers shall:
   1. Tested and approved by BHMA for ANSI 156.4, Grade 1

   2. UL10C certified

   3. Provide 9001-Quality Management and 14001-Environmental Management.

   4. Closer shall have extra-duty arms and knuckles

   5. Conform to ANSI 117.1

   6. Maximum 2 7/16 inch case projection with non-ferrous cover

   7. Separate adjusting valves for closing and latching speed, and backcheck

   8. Provide adapter plates, shim spacers and blade stop spacers as required by frame and door conditions

   9. Full rack and pinion type closer with 1½“ minimum bore

   10. Mount closers on non-public side of door, unless otherwise noted in specification

   11. Closers shall be non-handed, non-sized and multi-sized.

M. Door Stops: Provide a dome floor or wall stop for every opening as listed in the hardware sets.
   1. Wall stop and floor stop shall be wrought bronze, brass or stainless steel.

   2. Provide fastener suitable for wall construction.

   3. Coordinate reinforcement of walls where wall stop is specified.

   4. Provide dome stops where wall stops are not practical. Provide spacers or carpet riser for floor conditions encountered

N. Over Head Stops: Provide a Surface mounted or concealed overhead when a floor or wall stop cannot be used or when listed in the hardware set. Surface overhead stops shall be heavy duty bronze or stainless steel.

O. Push Plates: Provide with four beveled edges ANSI J301, .050 thickness, size as indicated in hardware set. Furnish oval-head countersunk screws to match finish.

P. Pulls with plates: Provide with four beveled edges ANSI J301, .050 thickness Plate s with ANSI J401 Pull as listed in hardware set. Provide proper fasteners for door construction.

Q. Push Pull Bars: Provide ANSI J504, .1" Dia. Pull and push bar model and series as listed in hardware set. Provide proper fasteners for door construction.

R. Kickplates: Provide with four beveled edges ANSI J102, 10 inches high by width less 2 inches on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.

S. Mop plates: Provide with four beveled edges ANSI J103, 4 inches high by width less 1 inch on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.

T. Door Bolts: Flush bolts for wood or metal doors.
   1. Provide a set of Automatic bolts, Certified ANSI/BHMA 156.3 Type 25 for hollow metal label doors.

   2. Provide a set of Automatic bolts, Certified ANSI/BHMA 156.3 Type 27 at wood label doors.

   3. Manual flush bolts, Certified ANSI/BHMA 156.16 at openings where allowed local authority.

   4. Provide Dust Proof Strike, Certified ANSI/BHMA 156.16 at doors with flush bolts without thresholds.

U. Coordinator and Brackets: Provide a surface mounted coordinator when automatic bolts are used in the hardware set.
   1. Coordinator, Certified ANSI/BHMA A1156.3 Type 21A for full width of the opening.

   2. Provide mounting brackets for soffit applied hardware.

   3. Provide hardware preparation (cutouts) for latches as necessary.

V. Seals: All seals shall be finished to match adjacent frame color. Seals shall be furnished as listed in schedule. Material shall be UL listed for labeled openings.

W. Weatherstripping: Provide at head and jambs only those units where resilient or flexible seal strip is easily replaceable. Where bar-type weatherstrip is used with parallel arm mounted closers install weatherstrip first.
   1. Weatherstrip shall be resilient seal of Neoprene, Nylon Brush, Silicone.

   2. UL10C Positive Pressure rated seal set when required.

X. Door Bottoms/Sweeps: Surface mounted or concealed door bottom where listed in the hardware sets.
   1. Door seal shall be resilient seal of Neoprene, Nylon Brush, Silicone.

   2. UL10C Positive Pressure rated seal set when required.

Y. Thresholds: Thresholds shall be aluminum beveled type with maximum height of 1/2" for conformance with ADA requirements. Furnish as specified and per details. Provide fasteners and screws suitable for floor conditions.

Z. Silencers: Furnish silencers on all interior frames, 3 for single doors, 2 for pairs. Omit where any type of seals occur.

AA. Shelves – Case and Cabinets:

Knapp & Vogt (KV) 255 Bright Nickel pilaster Standards, four (4) per set of shelves.

Knapp & Vogt (KV) 239 Bright Nickel pilaster support bracket, four (4) per shelf.

BB. Shelves – Trophy Case:

Knapp & Vogt (KV) 331 Bright Nickel Flat Top Shelf support, four (4) per shelf.

CC. Drawers and Doors – Case and Cabinets:

Stanley Drawer and Door Wire Pull, three and one half inches Satin Chrome, US 26d, one per drawer or door.

Knapp & Vogt (KV) 1260 Drawer Glides, 3/4 extension, 1 pair per drawer.

DD. Case and Cabinet Hinges:

No bore, surface mounted cabinet hinge, non-corrosive metal, select for a long life under hard use.

EE. Other Materials: All other materials not specifically listed herein-in, but required for the successful installation of the work included, are subject to approval.

2.03 FINISH

A. Designations used in Schedule of Finish Hardware - 3.5, and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 including coordination with traditional U.S. finishes shown by certain manufacturers for their products.

B. Powder coat door closers to match other hardware, unless otherwise noted.

C. Aluminum items shall be finished to match predominant adjacent material. Seals to coordinate with frame color.

2.04 KEYS AND KEYING

A. Cylinders, removable and interchangeable to match the existing County Schlage Masterkey System.

B. All locks and cylinders shall be provided with temporary construction cores

C. Furnish keys in the following quantities:
   1. 5 each Construction masterkeys

   2. 1 each Control keys

D. The Owner, or the Owner's agent, will install permanent cores and return the construction cores to the Hardware Supplier. Construction cores and keys remain the property of the Hardware Supplier.

2.05 CABINET HARDWARE

A. ANSI/BHMA A156.9, “Cabinet Hardware and ANSI/BHMA A156.11, “Cabinet Locks”.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verification of conditions: Examine doors, frames, related items and conditions under which Work is to be performed and identify conditions detrimental to proper and or timely completion.
   1. Do not proceed until unsatisfactory conditions have been corrected.

3.02 HARDWARE LOCATIONS

A. Mount hardware units at heights indicated in the following publications except as specifically indicated or required to comply with the governing regulations, or ADAAG Section 4.13.9.
   1. Recommended Locations for Builder’s Hardware for Standard Steel Doors and Frames, by the Door and Hardware Institute (DHI).

   2. Recommended locations for Architectural Hardware for flush wood doors (DHI).

   3. WDMA Industry Standard I.S.-1A-04, Industry Standard for Architectural wood flush doors.

   4. Mount deadbolt (if any) centerline to conform with ADAAG Section 4.13.9 above latchset handle centerline.

3.03 INSTALLATION

A. Install each hardware item per manufacturer's instructions and recommendations. Do not install surface mounted items until finishes have been completed on the substrate. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

B. Conform to local governing agency security ordinance.

C. Install Conforming to ICC/ANSI A117.1 Accessible and Usable Building and Facilities.
   1. Adjust door closer sweep periods so that from the open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the landing side of the door.

D. Installed hardware using the manufacturers fasteners provided. Drill and tap all screw holes located in metallic materials. Do not use “Riv-Nuts” or similar products.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Set metal thresholds for exterior doors in full bed of butyl rubber, polyisobutylene mastic sealant, or preformed butyl-polyisobutylene sealant tape as specified under Section 07920 – SEALANTS.

G. Fit face of all mortise parts snug and flush.

H. Protect hardware from damage or marring of finish during construction. Use strippable coatings, removable tapes or other approved means.

I. Cabinet Work: Install cabinet hardware to conform with manufacturer’s instructions and Woodwork Institute of California, “Quality Standards”, for quality of cabinet as specified.

3.04 FIELD QUALITY CONTROL AND FINAL ADJUSTMENT

A. Contractor/Installers, Field Services: After installation is complete, contractor shall inspect the completed door openings on site to verify installation of hardware is complete and properly adjusted, in accordance with both the Contract Documents and final shop drawings.
   1. Check and adjust closers to ensure proper operation.

   2. Check latchset, lockset, and exit devices are properly installed and adjusted to ensure proper operation.
      a. Verify levers are free from binding.

      b. Ensure latchbolts and dead bolts are engaged into strike and hardware is functioning.

3. Report findings, in writing, to architect indicating that all hardware is installed and functioning properly. Include recommendations outlining corrective actions for improperly functioning hardware if required.

4. Clean adjacent surface soiled by hardware installation.

3.05 SCHEDULE OF FINISH HARDWARE

Manufacturer List

Code	Name
AB	ABH Manufacturing Inc.
BE	Best Access Systems
K2	K2 Commercial Hardware
NA	National Guard
PR	Precision
SC	Schlage
ST	Stanley
TR	Trimco

Option List

Code	Description
CD	CYLINDER DOGGING
FL	Fire Exit Hardware
HC	Hurricane Code Device
SN	Sex Nuts (Pkg. of 4)
3/4	3/4" THROW LATCH
AVB	Advanced Variable Backcheck
LBR	LESS BOTTOM ROD
SRI	Special Rust Inhibitor
SCHRC	Schlage "C" Keyway ("6" Core Housing)
SNB (2)	SEX BOLTS (2)
P45HD-112	Angle Brkt. - Shoe Support HD Arms
SEX BOLTS	SEX BOLTS
1/4-20 SSMS/LA	SS SCREWS - ANCHOR

Finish List

Code	Description
AL	Aluminum
PC	Prime Coat
S1	Sprayed Aluminum Finish
626	Satin Chromium Plated
630	Satin Stainless Steel
689	Aluminum Painted
GREY	Grey
BLACK	Black
US32D	Stainless Steel, Dull

Hardware Sets

SET #1 - Alum Entrance

2	Hinge	Per Manufacturer		
1	Exit Device	Per Manufacturer		
1	Exit Device	Per Manufacturer		
1	Rim Cylinder	Per Manufacturer		
2	Mortise Cylinder	Per Manufacturer		
3	Cylinder Core	Provided by Owner	626	SC
2	Door Pulls	Per Manufacturer		
2	Door Closer	Per Manufacturer		
2	Drop Plate	P45-180 SRI	689	ST
2	Door Stop	1209	630	TR
1	Threshold	Per Manufacturer		
2	Sill Sweeps	Per Manufacturer		
1	Drip Cap	16 A 4"ODW		NA

NOTE: Balance of Seals by Alum. Door Mfg.

SET #2

6	Hinges	FBB199 4 1/2 X 4 1/2 NRP	US32D	ST
1	Exit Device	HC 2802 CD	630	PR
1	Exit Device	HC 2803 CD	630	PR
1	Rim Cylinder	20-079	626	SC
2	Mortise Cylinder	20-094	626	SC
3	Cylinder Core	Provided by Owner	626	SC
2	Door Pulls	1192-4	630	TR
2	Door Closer	D-4550 CS AVB P45HD-112 SRI	689	ST
2	Door Stop	1209	630	TR
1	Threshold	896 N 1/4-20 SSMS/LA	AL	NA
1	Head Seal	700 EN		NA
2	Jamb Seals	700 EN		NA
1	Astragal Set	9115 A SET		NA
2	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #3

6	Hinges	FBB199 4 1/2 X 4 1/2 NRP	US32D	ST
1	Exit Device	HC 2802 CD	630	PR
1	Exit Device	HC 2803 CD	630	PR
1	Rim Cylinder	20-079	626	SC
2	Mortise Cylinder	20-094	626	SC
3	Cylinder Core	Provided by Owner	626	SC
2	Door Pulls	1192-4	630	TR
2	Door Closer	D-4550 CS AVB P45HD-112 SRI	689	ST
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
2	Door Stop	1209	630	TR
1	Threshold	896 N 1/4-20 SSMS/LA	AL	NA
1	Head Seal	700 EN		NA
2	Jamb Seals	700 EN		NA
1	Astragal Set	9115 A SET		NA
2	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #4

6	Hinges	FBB199 4 1/2 X 4 1/2 NRP	US32D	ST
2	Flush Bolt	3915	626	TR
2	Surface Bolt	3922	630	TR
1	Lockset	93K-7R14DS3 L/C 3/4 SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
2	Door Closer	D-4550 HCS AVB P45HD-112 SN SRI	689	ST
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
2	Door Stop	1209	630	TR
1	Saddle Threshold	425 HD 1/4-20 SSMS/LA	AL	NA
1	Head Seal	700 EN		NA
2	Jamb Seals	700 EN		NA
1	Astragal Set	9115 A SET		NA
2	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #5

6	Hinges	FBB199 4 1/2 X 4 1/2	US32D	ST
2	Surface Bolt	3922	630	TR
2	Flush Bolt	3915	626	TR
1	Lockset	93K-7R14DS3 L/C 3/4 SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4550 STD W/PA BRKT SN SRI	689	ST
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
1	Threshold	896 N 1/4-20 SSMS/LA	AL	NA
1	Gasketing	135 N		NA
1	Astragal Set	9115 A SET		NA
2	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #6

6	Hinges	FBB199 4 1/2 X 4 1/2 NRP	US32D	ST
2	Flush Bolt	3915	626	TR
2	Surface Bolt	3922	630	TR
1	Lockset	93K-7D14DS3 L/C 3/4 SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4550 CS AVB P45HD-112 SRI	689	ST
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
1	Door Stop	1209	630	TR
1	Saddle Threshold	425 HD 1/4-20 SSMS/LA	AL	NA
1	Head Seal	700 EN		NA
2	Jamb Seals	700 EN		NA
1	Astragal Set	9115 A SET		NA
2	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #7

6	Hinges	FBB191 4 1/2 X 4 1/2 NRP	US32D	ST
2	Flush Bolt	3915	626	TR
2	Surface Bolt	3922	630	TR
1	Lockset	93K-7D14DS3 L/C 3/4 SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4550 CS AVB P45HD-112 SRI	689	ST
2	Door Stop	1209	630	TR
1	Saddle Threshold	425 1/4-20 SSMS/LA	AL	NA
1	Head Seal	700 EN		NA
2	Jamb Seals	700 EN		NA
1	Astragal Set	9115 A SET		NA
2	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #8

6	Hinges	FBB191 4 1/2 X 4 1/2 NRP	US32D	ST
2	Flush Bolt	3915	626	TR
2	Surface Bolt	3922	630	TR
1	Lockset	93K-7D14DS3 L/C 3/4 SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
2	Overhead Holder	3500 HD SEX BOLTS	S1	AB
1	Saddle Threshold	425 1/4-20 SSMS/LA	AL	NA
1	Gasketing	135 N		NA
1	Astragal Set	9115 A SET		NA
2	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #9

3	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Lockset	93K-7AB14DS3 L/C 3/4 SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4550 STD W/PA BRKT SN SRI	689	ST
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
1	Saddle Threshold	425 1/4-20 SSMS/LA	AL	NA
1	Gasketing	135 N		NA
1	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #10

3	Hinges	FBB191 4 1/2 X 4 1/2 NRP	US32D	ST
1	Lockset	93K-7D14DS3 L/C 3/4 SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4550 CS AVB P45HD-112 SRI	689	ST
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Door Stop	1209	630	TR
1	Saddle Threshold	425 1/4-20 SSMS/LA	AL	NA
1	Head Seal	700 EN		NA
2	Jamb Seals	700 EN		NA
1	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #11

3	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Lockset	93K-7R14DS3 L/C 3/4 SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Indicator Deadbolt	QDB285 2-3/4" BS	626	K2
1	Door Closer	D-4550 STD W/PA BRKT SN SRI	689	ST
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Mop Plate	KM050 4" X 1" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
1	Saddle Threshold	425 1/4-20 SSMS/LA	AL	NA
1	Gasketing	135 N		NA
1	Sill Sweeps	B606 A		NA
1	Drip Cap	16 A 4"ODW		NA

SET #100

6	Hinges	FBB199 4 1/2 X 4 1/2 NRP	US32D	ST
1	Exit Device	2802 LBR SNB (2)	630	PR
1	Exit Device	2803 CD LBR SNB X CO3	630	PR
1	Rim Cylinder	20-757 X Less Core	626	SC
2	Mortise Cylinder	20-763 X Less Core	626	SC
3	Cylinder Core	Provided by Owner	626	SC
2	Door Pulls	1192-4	630	TR
2	Door Closer	D-4550 CS P45HD-112	689	ST
2	Floor Stop	1211	630	TR
2	Door Silencers	1229A	GREY	TR

SET #101

6	Hinges	FBB199 4 1/2 X 4 1/2 NRP	US32D	ST
2	Exit Device	FL 2808 X V4908D LBR SNB (2)	630	PR
2	Rim Cylinder	20-757 X Less Core	626	SC
2	Cylinder Core	Provided by Owner	626	SC
2	Door Closer	D-4550 CS AVB P45HD-112 SN	689	ST
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
2	Floor Stop	1211	630	TR
1	Gasketing	135 N		NA
1	Astragal Set	9115 A SET		NA

SET #102

6	Hinges	FBB199 4 1/2 X 4 1/2 NRP	US32D	ST
2	Exit Device	2802 LBR SNB (2)	630	PR
2	Door Pulls	1192-4	630	TR
2	Door Closer	D-4550 CS AVB P45HD-112 SN	689	ST
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
2	Floor Stop	1211	630	TR
2	Door Silencers	1229A	GREY	TR

SET #103

6	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Semi Auto Bolts	3810 X 3820	630	TR
1	Coordinator	3094B2	PC	TR
1	Lockset	93K-7R14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
2	Door Closer	D-4551 STD W/PA BRKT SN	689	ST
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
2	Floor Stop	1211	630	TR
1	Gasketing	135 N		NA
1	Astragal Set	9115 A SET		NA

SET #104

6	Hinges	FBB191 4 1/2 X 4 1/2 NRP	US32D	ST
1	Semi Auto Bolts	3810 X 3820	630	TR
1	Dustproof Strike	3910	630	TR
1	Coordinator	3094B2	PC	TR
2	Mounting Bracket	3095	BLACK	TR
1	Lockset	93K-7D14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
2	Door Closer	D-4550 CS P45HD-112	689	ST
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
2	Floor Stop	1211	630	TR
1	Astragal Set	9115 A SET		NA
1	Gasketing	135 N		NA

SET #105

6	Hinges	FBB191 4 1/2 X 4 1/2 NRP	US32D	ST
2	Flush Bolt	3915	626	TR
1	Dustproof Strike	3910	630	TR
1	Lockset	93K-7D14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
2	Floor Stop	1211	630	TR
2	Door Silencers	1229A	GREY	TR

SET #106

6	Hinges	FBB191 4 1/2 X 4 1/2 NRP	US32D	ST
2	Flush Bolt	W3913	626	TR
1	Dustproof Strike	3910	630	TR
1	Lockset	93K-7D14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
2	Floor Stop	1211	630	TR
2	Door Silencers	1229A	GREY	TR

SET #107

6	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Semi Auto Bolts	3810 X 3820	630	TR
1	Dustproof Strike	3910	630	TR
1	Coordinator	3094B2	PC	TR
1	Lockset	93K-7R14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
2	Door Closer	D-4551 STD W/PA BRKT SN	689	ST
2	Kickplate	KO050 10" X 1" LDW X B4E X CSK	630	TR
2	Floor Stop	1211	630	TR
1	Astragal Set	9115 A SET		NA
1	Gasketing	135 N		NA

SET #108

3	Hinges	FBB199 4 1/2 X 4 1/2	US32D	ST
1	Deadlock	B663J	626	SC
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4550 STD W/PA BRKT SN SRI	689	ST
1	Push Plate	1001-3	630	TR
1	Pull Plate	1015-3	630	TR
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Mop Plate	KM050 4" X 1" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
3	Door Silencers	1229A	GREY	TR

SET #109

3	Hinges	FBB199 4 1/2 X 4 1/2	US32D	ST
1	Lockset	93K-7R14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4551 STD W/PA BRKT SN	689	ST
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Mop Plate	KM050 4" X 1" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
1	Gasketing	135 N		NA

SET #110

3	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Privacy Set	93K-0L14DS3	626	BE
1	Door Closer	D-4551 STD W/PA BRKT SN	689	ST
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Mop Plate	KM050 4" X 1" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
1	Gasketing	135 N		NA

SET #111

3	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Privacy Set	93K-0L14DS3	626	BE
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Mop Plate	KM050 4" X 1" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
3	Door Silencers	1229A	GREY	TR

SET #112

3	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Lockset	93K-7D14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4551 STD W/PA BRKT SN	689	ST
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Mop Plate	KM050 4" X 1" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
1	Gasketing	135 N		NA

SET #113

3	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Lockset	93K-7AB14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4551 STD W/PA BRKT SN	689	ST
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
1	Gasketing	135 N		NA

SET #114

3	Hinges	FBB199 4 1/2 X 4 1/2 NRP	US32D	ST
1	Exit Device	FL 2108 X V4908D SNB (2)	630	PR
1	Rim Cylinder	20-757 X Less Core	626	SC
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4550 CS AVB P45HD-112 SN	689	ST
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
1	Gasketing	135 N		NA

SET #115

3	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Lockset	93K-7D14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
3	Door Silencers	1229A	GREY	TR

SET #116

NOTE: Provide the proper Schlage cylinder to accommodate door suppliers lockset. Remaining hardware by door supplier.

SET #117

3	Hinges	FBB191 4 1/2 X 4 1/2	US32D	ST
1	Lockset	93K-7D14DS3 L/C SCHRC	626	BE
1	Cylinder Core	Provided by Owner	626	SC
1	Door Closer	D-4551 STD W/PA BRKT SN	689	ST
1	Kickplate	KO050 10" X 2" LDW X B4E X CSK	630	TR
1	Floor Stop	1211	630	TR
1	Gasketing	135 N		NA

Opening List

Opening	Hdw Set
101	1
102	1
103	1
104	5
105	9
106	10
107	3
108	102
109	11
110	11
111	3
112	3
113	10
114	116
115	3
116	3
117	102
118	3
119	102
120	3
121	9
122	116
123	9
124	9
125	4
126	116
127	116
128	113
129	113
130	115
131	106
132	115
133	109
134	101
135	112
136	109
137	105
138	105
139	110
140	110
141	114
142	101
143	115
144	103
145	101
146	115
147	115
148	116
149	116
150	115
151	115
152	101

153	105
154	105
155	109
156	109
157	111
158	111
159	112
160	105
161	117
162	105
163	109
164	111
165	111
166	105
167	105
168	105
169	109
170	105
171	113
172	103
173	115
174	3
175	113
176	115
177	111
178	104
179	107
180	102
181	116
182	116
183	116
184	101
185	101
186	115
187	105
188	101
401	2
402	7
403	7
404	8
405	8
406	2
407	2
408	2
409	100
410	108
411	108
412	106
413	106
414	116
EXT GATES	116

END OF SECTION

SECTION 08951 - INSULATED TRANSLUCENT SANDWICH PANEL SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes the insulated translucent sandwich panel system as shown and specified. Work includes providing and installing:
   1. Flat factory prefabricated structural insulated translucent sandwich panels.

   2. Aluminum installation system.

   3. Aluminum flashing attached to panels.

B. Related Work Described Elsewhere:
   1. Coordinate with roofing system provided under Section 07410 – PREFORMED METAL ROOFING.

   2. Flashing and sheet metal not part of system are provided under Section 07600 - FLASHING AND SHEET METAL.

   3. Sealants are provided under Section 07920 - SEALANTS.

1.02 SUBMITTALS

A. Submit in accordance with **Section 01300 – SUBMITTALS**.

B. Manufacturer's Data: Submit construction details, material descriptions, profiles and finishes of skylight components.

C. Shop Drawings: Submit plans, elevations, details, dimensions and attachments to other work.

D. Samples:
   1. Submit manufacturer's color charts showing the full range of colors available for factory finished aluminum.

   2. Submit samples for each exposed finish required, in same thickness and material indicated for the work and in size indicated below. If finishes involve normal color variations, include sample sets consisting of two or more units showing the full range of variations expected.
      a. Sandwich Panels: 14-inch x 28-inch units.

      b. Factory Finished Aluminum: 5-inch long sections.

E. Certificates: Submit Installer Certificate, signed by installer, certifying compliance with project qualification requirements.

F. Test Reports: Submit product test reports from a qualified independent testing agency indicating each type and class of panel system complies with the project performance requirements, based on comprehensive testing of current products. Previously completed test reports will be acceptable if for current manufacturer and indicative of products used on this project. Test reports required are:

1. Flame Spread and Smoke Developed **(UL** 723) - Submit UL Card
2. International Building Code Evaluation Report
3. Burn Extent (ASTM D 635)
4. Fall Through Resistance (ASTM E661)
5. Color Difference (ASTM D 2244)
6. Solar Heat Gain Coefficient (NFRC or Calculations)
7. Abrasion/Erosion Resistance (ASTM D 4060)
8. Air Leakage (ASTM E 283)
9. Impact Strength (UL 972)
10. Structural Performance (ASTM E330)
11. Bond Tensile Strength (ASTM C 297 after aging by ASTM D 1037)
12. Water Penetration (ASTM E 331)
13. Bond Shear Strength (ASTM D 1002)
14. LEED Credits
15. Beam Bending Strength (ASTM E 72)
16. Daylight Autonomy
17. Insulation U-Factor (NFRC-100)
18. NFRC System Certification
19. Condensation Resistance Factor (AAMA 1503)
20. Class A Roof Covering Burning Brand (ASTM E 108)
21. UL Listed Class A Roof System **(UL** 790) - Submit **UL** Card

G. Documentation: Submit current documentation indicating regular, independent quality control monitoring under a nationally recognized building code review and listing program.

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications:

1. Material and products shall be manufactured by a company continuously and regularly employed in the manufacture of specified materials for a period of at least 10 consecutive years and which can show evidence of those materials being satisfactorily used on at least 6 projects of similar size, scope and location. At least 3 of the projects shall have been in successful use for 10 years or longer.

2. Panel system must be listed by the International Code Council-Evaluation Service (ICC-ES) which requires quality control inspections and fire, structural and water infiltration testing of sandwich panel systems by an approved agency.

3. Quality control inspections and required testing shall be conducted at least once each year and shall include manufacturing facilities, sandwich panel components and production sandwich panels for conformance with "Acceptance Criteria for Sandwich Panels" as regulated by the ICC-ES.

B. Installer's Qualifications: Installation shall be by an experienced installer, which has been in the business of installing specified skylight systems for at least 5 consecutive years and can show evidence of satisfactory completion of projects of similar size, scope and type.

C. Performance Requirements: The manufacturer shall be responsible for the configuration and fabrication of the complete skylight system. Include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

D. Wind Design: ICC IBC 115 mph, Exposure C, Importance Factor 1.15.

E. Protected Openings: Insulated translucent sandwich skylight system shall conform to impact resistance of current ICC IBC, as amended for large missile test of ASTM E 1996, "Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes", minimum missile level D for glazed openings within 30-feet of grade and ASTM E 1886 or TAS 201, 202 and 203.

F. Standard Skylight System shall have less than 0.01 cfm/ft^2 air leakage by ASTM E 283 AT 6.24 PSF (50 mph) and no water penetration by ASTM E 331 at 15 psf; and structural testing by ASTM E 330.

G. Seismic Load: As indicated.

H. Structural Loads: Provide skylight system capable of handling the following loads:
   a. Live Load: 20 PSF

   b. Wind Load: **55** PSF

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver panel system, components and materials in manufacturer's standard protective packaging.

B. Store panels on the long edge, several inches above the ground, blocked and under cover in accordance with manufacturer's storage and handling instructions.

1.05 WARRANTY

A. Submit manufacturer's and installer's written warranty agreeing to repair or replace panel system work which fails in materials or workmanship within one year of the **final project acceptance.** ~~date of delivery.~~ Failure of materials or workmanship shall include leakage, excessive deflection, deterioration of finish on metal in excess of normal weathering and defects in accessories, insulated translucent sandwich panels and other components of the work.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Kalwall Corporation, tel: (800) 258-9777

B. Structures Unlimited, Inc., tel: (800) 225-3895

2.02 PANEL COMPONENTS

A. Face Sheets:
   1. Translucent Faces: Manufactured from glass fiber reinforced thermoset resins, formulated specifically for architectural use. Thermoplastic (e.g. polycarbonate, acrylic) faces are not acceptable.

   2. Flammability of Interior Face Sheets:
      a. Flamespread: Underwriters Laboratories (UL) listed, which requires periodic unannounced retesting, with flamespread rating no greater than 50 and smoke developed no greater than 250 when tested in accordance with UL 723.

      b. Burn extent by ASTM D 635 shall be no greater than 1-inch.

      c. Face sheets shall not deform, deflect or drip when subjected to fire or flame.

      d. Face sheets shall not delaminate when exposed to 200 degrees F for 30 minutes per ICC IBC.

3. Weatherability of Exterior Face Sheets:
   a. Color Stability: Full thickness of the exterior face sheet shall not change color more than 3.0 CIE Units DELTA E by ASTM D 2244 after 5 years outdoor South Florida weathering at 5 degrees facing south, determined by the average of at least 3 white samples with and without a protective film or coating to ensure long-term color stability. Color stability shall be unaffected by abrasion or scratching.

   b. Erosion Barrier: Exterior face shall have a permanent glass erosion barrier embedded beneath the surface to provide long-term resistance to reinforcing fiber exposure. Exterior face surface loss shall not exceed .7 mils and 40 mgs when tested in accordance with ASTM D 4060 employing CS17 abrasive wheels at a head load of 500 grams for 1000 cycles. Sacrificial surface films or coatings are not acceptable erosion barriers.

4. Appearance:
   a. Exterior Face Sheets: Smooth, 0.070" thick and white in color.

   b. Interior Face Sheets: Smooth, 0.045" thick and crystal in color.

   c. Face sheets shall not vary more than +/- 10% in thickness and be uniform in color.

5. Strength: Exterior face sheet shall be uniform in strength, impenetrable by hand held pencil and repel an impact equal to 70 ft. lbs. without fracture or tear when impacted by a 3-1/4 inch diameter, 5 pound free-falling ball per UL 972, meeting ASTM E 1996 and ASTM E 1886 or TAS 201, 202 and 203.

B. Grid Core: 1-beam grid core shall be of 6063-T6 or 6005-TS alloy and temper with provisions for mechanical interlocking of muntin-mullion and perimeter. Width of I-beam shall be no less than 7/16-inch. The I-beam grid shall be machined to tolerances of not greater than +/- 0.002 inch.

C. I-Beam Thermal Break: Minimum 1”, thermoset fiberglass composite.

D. Laminate Adhesive:
   1. Heat and pressure resin type adhesive engineered for structural sandwich panel use, with minimum 25-years field use. Adhesive shall pass testing requirements specified by the International Code Council "Acceptance Criteria for Sandwich Panel Adhesives."

   2. Minimum tensile strength of 750 PSI when the panel assembly is tested by ASTM C 297 after 2 exposures to 6 cycles each of the aging conditions prescribed by ASTM D 1037.

3. Minimum shear strength of the panel adhesive by ASTM D 1002 after exposure to 5 separate conditions:
   a. 50% Relative Humidity at 73 degrees F: 540 PSI.
   b. 182 degrees F: 100 PSI.
   c. Accelerated Aging by ASTM D 1037 at room temperature: 800 PSI.
   d. Accelerated Aging by ASTM D 1037 at 182 degrees F: 250 PSI.
   e. 500 Hour Oxygen Bomb by ASTM D 572: 1400 PSI.

2.03 PANEL CONSTRUCTION

A. Provide sandwich panels of flat fiberglass reinforced translucent face sheets resin laminated to a grid core of mechanically interlocking aluminum I-beams. The adhesive bonding line shall be straight, cover the entire width of the I-beam and have a neat, sharp edge.
   1. Thickness: 2-3/4".
   2. Light Transmission: 12%.
   3. Solar Heat Gain Coefficient: 0.18.
   4. U-factor by NFRC Certified Laboratory: 2-3/4" thermally broken grid.
   5. Grid Pattern: Nominal 12-inch by 20-inch shoji.
   6. Complete insulated panel system shall have NFRC certified U-factor of 0.10.

B. Panels shall deflect no more than 1.9-inch at 30 psf in 10' 0" span without a supporting frame by ASTM E 72.

C. Panels shall withstand 1200 degrees F fire for minimum one hour without collapse or exterior flaming.

D. Thermally broken panels: Minimum Condensation Resistance Factor of 80 by AAMA 1503 measured on the bond line.

E. Panel system shall be UL listed as Class A by UL 790 which requires periodic unannounced inspections and retesting by Underwriters Laboratories.

F. Skylight System shall meet the fall though requirements of OSHA 1910.23 as demonstrated by testing in accordance with ASTM E 661, thereby not requiring supplemental screens or railings.

2.04 BATTENS AND PERIMETER CLOSURE SYSTEM

A. Closure System: Extruded aluminum 6063-T6 and 6063-TS alloy and temper clamp-tite screw type closure system. Perimeter closures shall be factory sealed to panels.

B. Sealing Tape: Manufacturer's standard, pre-applied to closure system at the factory under controlled conditions.

C. Fasteners: 300 series stainless steel screws for aluminum closures, excluding final fasteners to the building.

D. Finish: Exposed aluminum to be factory white finish, which meets the performance requirements of AAMA 2604. Color to be selected from manufacturer's standard.

2.05 OTHER MATERIALS

A. All other materials not specifically listed herein-in, but required for the successful installation of the work included, are subject to approval.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, supporting structure and installation conditions. Do not proceed with panel erection until unsatisfactory conditions have been corrected.

3.02 METAL PROTECTION

A. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

B. Where aluminum will contact pressure-treated wood, separate dissimilar materials by methods recommended by manufacturer.

3.03 INSTALLATION

A. Install the panel system in accordance with the manufacturer's installation recommendations and approved shop drawings.

1. Anchor component parts securely in place by permanent mechanical attachment system.

2. Accommodate thermal and mechanical movements.

3. Set frame members in a full bed of sealant compound, or with joint fillers or gaskets to provide weather-tight construction.

4. Assemble so internal and external components drain water to flashing pans and make flashing pans drain to roof below. Total installation shall not frustrate free flow of drainage water.

B. Install joint sealants at perimeter joints and within the panel system in accordance with manufacturer's installation instructions.

C. Install so individual components shed water off flashing pans, drain out onto roof below.

3.04 FIELD QUALITY CONTROL

A. Water Test: Test panels **installation** according to procedures in AAMA 501.2.

B. Repair or replace work that does not pass testing or that is damaged by testing and retest work.

3.05 CLEANING

A. Clean the panel system inside and outside, immediately after installation, according to manufacturer's written recommendations.

END OF SECTION

SECTION 10503 - LOCKERS

PART 1- GENERAL

1.01 SUMMARY

A. This Section includes the following:

1. Provide fasteners and anchorages devises to install lockers provided under this section.

2. Provide metal filler panels to fill between banks of lockers and adjacent construction.

B. Related Work Described Elsewhere:

1. Section 01352 – LEED REQUIREMENTS.

2. Section 03300 – Cast-In-Place Concrete: Concrete Base.

3. Section 06100 – Rough Carpentry: Furring, blocking, and shims.

1.02 SUBMITTALS

A. Submit in accordance with Section 01300 – SUMBITTALS.

B. Products Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of locker.

C. Shop Drawings: Show locker detail, method of installation, fillers, trim, base, and accessories. Include locker numbering sequence information.

D. Sample for Verification: Submit one full-size locker sample for evaluation. Adherence to the specification is required. Locker submitted must meet specification regardless of manufacturer's standard product. Submit manufacturer's technical data and installation instructions for metal locker units.

E. Maintenance Data: For adjusting, repairing and replacing locker doors and latching mechanisms to include in maintenance manuals.

F. LEED Submittals:

1. Documentation indicating percentage of post-industrial and post-consumer recycled content per unit of product. Indicate dollar value of product.

2. Provide manufacturer's data sheet. Highlight VOC content.

3. LEED documentation relative to recycled content materials credit in accordance with the LEED Reference Guide. Include in the LEED Documentation Notebook.

4. **LEED documentation relative to low-emitting materials credit in accordance with the LEED Reference Guide. Include in the LEED Documentation Notebook.**

5. **Provide products required by this section with attributes that contribute to the project sustainability goals:**
   a. **MR 4.1 and MR 4.2: Recycled Content.**

   b. **EQ 4.1. EQ 4.2, EQ 4.4: Low Emitting Materials.**

1.03 QUALITY ASSURANCE

A. Uniformity and Single Manufacturer Requirements: Provide lockers as produced by a single manufacturer, including necessary mounting accessories, fittings, and fastenings.

B. Installers Qualifications: Lockers to be installed by an experienced agent of the manufacturer.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Packing and Shipping: Do not deliver lockers until building is enclosed and ready for locker installation.

B. Storage and Protection: Protect materials from damage during deliver, handling, storage and installation.

C. Inspect lockers upon receipt for visible damage.

D. Store products in manufacturer's unopened packaging until ready for installation.

1.05 WARRANTY

A. Partition system shall be guaranteed for a period of two years against defects in material and workmanship, excluding abuse.

1.06 ACCESSIBILITY

A. Accessible lockers shall conform by design or custom modification to the requirements of the Americans with Disability Act Accessibility Guidelines (ADAAG) Section 4.1.3(12) and Section 4.1.3(13).

PART 2 - PRODUCT

2.01 ACCEPTABLE MANUFACTURERS

A. The following manufacturers are acceptable if the product meets the criteria outlined in the specifications and detailed on the drawings. All others must submit to the architect for approval, no less than 10 days prior to the bidding, sufficient information to show that their product will meet the intent of the Specifications.
   1. ASI Storage Solutions, Inc.

2. Bradley Corporation

3. Spec-Rite Designs

2.02 MATERIALS

A. Plastic: Plastic laminate faced phenolic core.

1. Coat Hooks: Stainless steel or high impact plastic.

2. Fasteners: Zinc plated manufacturer's standard.

B. Phenolic Lockers: Standard Duty Laminate-Faced Solid Phenolic Lockers:

1. Double Tier:

a. Height: 60 inches.

b. Size: 15-inches wide by 18-inches deep.

2. Construction:

a. Components: Solid phenolic core decorative plastic laminate with multiple resin-impregnated kraft and surface sheets fused at high temperature and pressure. Units fabricated using stainless steel fasteners and corner support blocks. Exposed edges shall be smooth and chamfered.

(1) Doors shall be constructed of 1/2 inch plastic laminate faced solid phenolic core. Color as scheduled. Doors shall be fitted with a flush handle, number plate, padlock hasp and locking device. Door latches shall be mounted at the mid-point of each door. Handles shall be capable of release from the inside of the locker. Hasps shall be mounted below each handle and will accept standard padlock styles. Concealed interior ventilation. Doors shall be mounted to Side Panel using Stainless Steel Piano Type hinge and Stainless Steel Fasteners.

(2) End Cover Panels shall be constructed of 1/2 inch solid phenolic core with plastic laminate. Color as scheduled.

(3) Side Panels shall be constructed of 3/8 inch solid phenolic core with plastic laminate.

(4) Tops, Bottoms and Shelves shall be constructed of 1/2 inch solid phenolic core plastic laminate.

(5) Slope Tops, Filler Panels and Recessed Locker Trim shall be constructed of ½ inch solid phenolic core with plastic laminate. Provide where scheduled or indicated. Color as scheduled.

b. Hinges: Continuous full length stainless steel, piano hinge.

(1) Finish: Brushed mechanical finish on stainless steel.

c. Interior Equipment:

(1) Double Tier lockers shall have three wall hooks and one ceiling hook.

d. Color: Burgundy

PART 3 – EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates and bases have been properly prepared.

B. If substrate and bases are the responsibility of another installer, notify Project Coordinator of unsatisfactory preparation before proceeding.

C. Securely anchor every locker to wall and/or base before use.

3.02 INSTALLATION

A. Install lockers and accessories at location shown in accordance with manufacturer's instructions.

B. Install lockers level and plumb with flush surfaces and rigid attachment to anchoring surfaces.

C. Anchor lockers to floor and wall at 48 inches or less, as recommended by the manufacturer.

D. Fasten adjoining locker units together to provide rigid installation.

E. Install sloping tops and metal fillers using concealed fasteners. Provide flush hairline joints against adjacent surfaces.

F. Install front bases between legs without overlap or exposed fasteners. Provide end bases on exposed ends.

G. Install benches by fastening bench tops to pedestals and securely anchoring to the floor using appropriate anchors for the floor material.

3.03 ADJUSTING AND CLEANING

A. Adjust doors and latches to operate without binding. Verify that latches are operating satisfactorily.

B. Touch-up factory-finish and repair or replace damaged products before Substantial Completion.

3.04 PROTECTION

A. Protect installed products until completion of project.

END OF SECTION

SECTION 10615 – DEMOUNTABLE PARTITIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.

1.02 SUMMARY

A. This Section includes the following:

1. The extent of the demountable unitized-panel partitions work as shown on the drawings, and as specified herein.

2. Provide all materials, labor, and equipment to install demountable or movable partitions. The movable wall system shall offer maximum flexibility and reusability to accommodate frequent and quick relocation work without loss of materials, damage or modification to panels or to adjoining structures such as ceiling, fixed walls and floors. The factory assembled system must be unitized (not stick built), non-progressive and modular, allowing the removal of individual panels from any location without disturbing adjoining units and providing interchangeability of panels and door units on the same module.

3. The head detail is either recessed or flush.

4. The base assembly with an integrated leveling system shall be permanently attached to the panel. Detached and loosely shipped floor tracks and leveling components shall note be permitted.

5. Panels are stackable (top or bottom) to accommodate ceiling height changes and panel type changes (i.e. solid/glass or glass/solid configuration).

6. Factory installed panel shells or faces shall be removable and interchangeable in the field without dismantling as complete units.

7. The factory assembled movable walls should be very flexible to accommodate the building conditions. The demountable wall should have flexible vertical adjustability. An adjustable, u-channel head assembly shall provide a +/- ½" adjustment at the ceiling. At the floor, a self-contained leveling glide system and a flush 4" or 5" high base cover shall allow for an adjustment of +/- 1" for a 4" base and +/- 1-1/2" for a 5" base. Combined, this shall provide an overall vertical adjustment of +/- 1-1/2" for 4" and +/- 2" for 5" to compensate for ceiling and floor irregularities. Where the wall system meets the building core walls, columns or window mullions, a telescopic, spring-loaded wall post or u-channel shall allow for a +/- 1" horizontal

adjustment. All products shall be able to accommodate incremental sizes to a 1/16" increment.

B. Related Sections include the following:
   1. Wood Doors – Section 08140.
   2. Door Hardware – Section 08710.
   3. Glass and Glazing – Section 08800.
   4. Acoustical Ceilings – Section 09510.
   5. Electrical – Section 16010.

1.03 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced installer who has successfully completed demountable partition installations similar in material, design and extent to that indicated for this Project and is mutually accepted by the manufacturer and the Owner.

B. Performance Bond: The successful demountable manufacturer should have the ability to provide a performance bond to insure Project completion.

C. Structural Performance: Provide demountable partitions capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.
   1. Load-Bearing Capacity of Panel System: Not less than 7 lbs./linear inch distributed proof load when tested according to BIFMA X5.6, Section 03, Table 06.
   2. Transverse-Load Capacity of Panel System: Lateral deflection of not more than 1/240 of the overall span when tested under a uniformly distributed load of 5 lbs./sq. ft. according to ASTM E 72-98.
   3. Seismic Performance: Provide demountable partitions capable of withstanding the effects of earthquake motions determined according to ICC Approval and compliance with the 2006 International Building Code.

D. Sound Control: Solid panels shall provide an overall sound transmission class of not less than 44 STC rating in accordance with ASTM E-90, ASTM E412 when recessed ceiling channel, recessed panel connectors and wall posts are used. Solid panels shall provide an overall sound transmission class of not less than 48 STC rating in accordance with ASTM E-90, ASTM E 412 when flush ceiling channel, flush panel connectors and U-channels are used.

E. Fire Retardancy: No flammable materials shall be used in the manufacture of the wall system. Provide independent laboratory tests for surface-burning characteristics of panel finishes in accordance with ASTM E-84.

F. Indoor Air Quality: Demountable wall manufacturer's non-wood products must meet the GREENGUARD Standards for low-emitting products. The GREENGUARD Standards are based on low pollutant requirements of the State of Washington's Indoor Air Quality Program, OSHA's Formaldehyde Rule, USEPA's office furniture specifications, the USEPA's National Ambient Air Quality Standard, and 1/10 of all regulated chemical exposure limits established by OSHA> Controlled pollutants include VOCs, respirable particles, formaldehyde, total aldehydes, ozone, and carbon monoxide. Specific chemicals, which are know irritants, odorants, or carcinogens, must meet certain criteria for some products.

G. Certification: Include supporting certified laboratory testing data indicating that material meets specified test requirements.

1.04 SUBMITTALS

A. Product Data: Product data on physical characteristics, durability, resistance to fading, and flame spread characteristics for each type of partition and accessory.

B. Shop Drawings: Shop drawings showing location and extent of partitions. Include plans, elevations, sections, details, and attachments to other work.

C. Samples:
1. Samples for Initial Selection: Samples for initial selection purposes in form of manufacturer's standard color charts showing full range of colors, textures, and patterns available for each type of material exposed to view.

2. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:
   a. Panel Finish Face: Manufacturer's standard size unit, but not less than 3 inches square.

   b. Base Trim: 12-inch long samples.

   c. Door Finish Face: Manufacturer's standard-size unit, but not less than 3 inches square.

   d. Glazing: Manufacturer's standard-size unit, but not less than 3 inches square.

D. Product Test Reports: Based in evaluation of comprehensive tests performed by a qualified testing agency, for each type of demountable partitions.

E. Contract Closeout Information:
1. Warranty.

2. Maintenance Data: For demountable partitions to include in maintenance manuals.
   a. Recommended cleaning materials and warning about cleaning methods that could be detrimental to finishes and performance.

b. Installation manual detailing methods to move, reuse and adjust demountable product.

F. Environmental Information:
1. LEED Credit MR 4.1 or 4.2, Recycled Content: Product data indication percentages by weight of post-consumer and post-industrial recycled content for products having recycled content; includes statement indicating costs for each product having recycled content.

1.05 PROJECT CONDITION

A. Delivery, Storage, and Handling: Deliver materials to Project Site in original factory wrappings and containers/skids, clearly labeled with identification of manufacture, brand name, model number and order number. Store materials in original undamaged packages and containers, inside well ventilated area protected from weather, moisture, soiling, extreme temperatures, humidity; store product according to installation manual and away from other trades.

B. Environmental Limitations: Do not deliver or install demountable partition components until building is enclosed and finishing operations, including ceiling and floor-covering installation and painting, are complete.

C. Field Measurements: Indicate measurements on Shop Drawings.

D. Coordination of Work: Coordinate layout and installation of demountable partition components with other units of Work. Installation of ceilings, floor coverings, lighting fixtures, and fire-suppression systems should be completed before demountable partitions are installed.

E. Special Requirements: Comply with instructions and recommendations of manufacture for special delivery, storage, and handling requirements.

1.06 EXTRA MATERIALS

A. Deliver to the Owner, not less than three percent of the Project total for each component, panel and accessory of each type, color and finish of demountable partition system exclusive of materials required to properly complete installation. Furnish accessory components and installation tools as indicated on schedule. Furnish extra materials form same production run as materials installed. Package extra materials with protective covering, identified with appropriate labels.

1.07 WARRANTY

A. Demountable wall panels, glazed units, door frames, and related components to be without defects in materials or workmanship for a period of ten (10) **y**ears from the date of **final project acceptance.** ~~deliver.~~ Wood veneer wrapped parts shall be warranted to be without defects in material or workmanship for a period of five (5) years from date of delivery. Wood doors shall be warranted for (10) years from the date of delivery, submit to the manufacturer's terms and conditions.

This warranty does not cover defects or damage resulting from accidents, misuse, improper relocation methods or transfer to storage. Vinyl and textile wall coverings, plastic laminates, and wood veneer finishes are not warranted against fading or wearing, or if improperly cleaned or treated by the Owners or others.

PART 2 - PRODUCTS

2.01 DEMOUNTABLE UNITIZED-PANEL PARTITIONS

A. Products: Subject to compliance with requirements, provide the Basis-of-Design product, or one of the following:
   1. Dirtt Company
   2. Environmental Wall Systems
   3. Haworth Company
   4. Other manufacturers desiring approval comply with Section 00440.

B. Basis-of-Design Product: Subject to compliance with requirements, provide KI "Genius Architectural Wall".

C. Aluminum Glass Framing:
   1. Frame Finishes: Clear Anodized.
   2. Frame Color: As selected by Architect from Manufacturer's full range.
   3. Glass Frame Vertical Dimensions: 1.9"
   4. Glass Panel Configuration: single center mounted.

D. Panel Connector or Joint closure:
   1. Connector Type: Pliable PVC recessed.
   2. Finish: As selected by Architect from Manufacturer's full range.

E. Trim: Base trim is continuous, factory-finished, snap-on type or recessed; adjustable for variations in floor. Ceiling trim is continuous and compensates for ceiling irregularities.
   1. Base Trim Profile: Flush
   2. Ceiling Trim Profile: Flush
   3. Exposed-Metal Trim Finish: Clear Anodized.
   4. Trim Color: As selected by Architect from Manufacturer's full range.

F. Wood Door Leaves: Manufacturer's standard 5-ply construction and 1-3/4" thick. Leaves should be constructed with no visible stop. Standard core material is Timberstrand which is considered a rapidly renewable resource.
   1. Door Veneer Type: As selected by Architect from Manufacturer's full range.

   2. Door Veneer Finish: As selected by Architect from Manufacturer's full range.

   3. Door Leaf Type: Fully glazed.

   4. FSC Veneer: NO.

G. Door Frame: Manufacturer's standard aluminum extrusion, factory-machined to receive hardware, for 1-3/4" doors.
   1. Frame Finishes: Clear Anodized.

   2. Frame Color: As selected by Architect from Manufacturer's full range.

   3. Frame Height: Transom Height.

   4. Transom Height Finish: Glass.

H. Door Hardware: As specified in Hardware Section 08710.

I. Glass and Glazing: Safety glazing in compliance with Glass and Glazing Section 08800.
   1. Single Glazed Thickness: 1/4" to 3/8"

   2. Glass Type: Tempered**, obscured glass.**

J. Seals: Manufacturer's Standard.

2.02 FABRICATION

A. Demountable Unitized Panels: Factory-assembled, flush, hollow unit construction; with faces smooth and free buckles, oil canning, and seams; and insulated with solidly packed, formaldehyde free insulation. Fabricate panels for installation with concealed fastening devices and pressure-fit components that will not damage ceiling of floor coverings. Fabricate panels with continuous light-and-sound seal as at floor, ceiling, and other locations where panels abut fixed construction.
   1. Factory glaze panels to the greatest extent possible.

B. Components: Fabricate components for installation with concealed fastening devices and pressure-fit members that will not damage ceiling or floor coverings. Fabricate for installation with continuous seals at floor, ceiling, and other locations where partition assemblies abut fixed construction and for installation of sound attenuation insulation in partition cavities.

2.03 FINISHES, GENERAL

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.

2.04 OTHER MATERIALS

A. All other materials not specifically listed herein-in, but required for the successful installation of the work included, are subject to approval.

PART 3 – EXECUTION

3.01 PREPARATION

A. Prior to installation of demountable partition system, clean floor to remove dust, debris, and loose particles.

B. Illuminate areas of installation to provide an ambient light level of at least 100 foot candles measured in the area where partitions are to be installed.

C. Maintain temperature in the area of installation at a constant minimum of 65 degrees F with relative humidity less than 7 percent for a period of 48 hours prior to installation and during installation process.

D. General Contractor will deliver all GWB construction interfacing with the demountable partition system in true and plumb condition.

E. For manufacturer to accept responsibility of dimensional compatibility between demountable partition wall system and GWB construction, manufacturer shall have access to the completed GWB for accurate field measuring eight weeks prior to requiring product on site to commence installation. If time line does not permit the eight weeks lead time, demountable manufacturer shall provide “hold-to” dimensions for the General Contractor. General Contractor then assumes responsibility that GWB construction delivers on “hold-to” dimensions.

3.02 INSTALLATION

A. Install demountable partition systems rigid, level, plumb, and aligned. Install seals to prevent light and sound transmission at connections to floors, ceilings, fixed walls, and abutting surfaces.
   1. Installation Tolerance: Install each demountable partition so surfaces vary not more than 1/8 inch from the plane formed by the faces of adjacent partition.

B. Do not alter ceiling suspension system.

C. Install door-and-frame, solid panel and frame, and glazing-and-glazing-frame assemblies securely anchored to partitions and with doors aligned and fitted Install and adjust door hardware for proper operation.

END OF SECTION

SECTION 11550 - FALL ARREST ANCHORING

PART 1 - GENERAL

1.01 SUMMARY

A. Provide roof tie-down, fall arrest anchor for one individual to be directly connected to fall arrest anchor on a sloped roof as indicated. Fall arrest anchors must also be able to support up to four persons using the fall arrest anchors in conjunction with a catenary line system. Provide continuous stainless steel cable lifeline restrained at fall arrest anchors suitable for multiple safety snap connections along cable between anchors.

B. The fall arrest anchor shall be designed to be a permanent fixture attached to the roof structure. The system shall allow any workman to perform any task needed, such as roof covering application, roof maintenance, or any other roof top work, without fear of injury. Contractor shall verify compatibility of other safety components to be used to comply with OSHA/ANSI requirements.

C. An individual fall arrest anchor shall be designed to support 5000 pound load applied in any direction at a height of 12-inches above the roof deck.

1.02 SUBMITTALS

A. Submit in accordance with **Section 01300 - SUBMITTALS**.

B. Shop Drawings: Show layout and detail drawings. Drawings shall include fabrication details, blocking method, material selection, fastening/connection details, dimensions and sizes, and installation details. Provide detail of fall arrest anchor's protrusion of flashings including waterproofing method. Submit a stamped copy of structural engineering calculations.

C. Samples: Provide full size mock up of fabricated fall arrest anchor. Acceptable samples will be returned and may be used in the work.

D. Testing: A field test must be performed to meet all of the necessary criteria.

1.03 QUALITY ASSURANCE

A. Fall arrest system shall comply with Occupational Safety and Health Standards (OSHA) for the Construction Industry 29 CFR § 1926.500 Subpart M through § 1926 Subpart M, Appendix E.

B. Qualifications of Welders: Use only AWS certified welders.

C. Promptly inform Project Coordinator if field conditions differ from that of approved shop drawings that will risk the integrity of the installation of the fall arrest anchor.

D. Perform quality control tests for each fall arrest anchor.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Fall Arrest Anchor:
   1. Steel Plates, Bars: ASTM A 36/A 36M carbon structural steel.

   2. Steel Pipe: ASTM A 53/A 53M, Schedule 80, welded and seamless.

B. Accessories: Anchors and fasteners tested for substrate and structure assembly and approved by fall protection device manufacturer. ITW Buildex by Illinois Tool Works Inc. or Rawl by BPB Rawlplug, or approved equal.

C. Standard Roof Anchors: Guardian CB Series anchors or approved equal each a welded assembly consisting of top U-bolt eyelet, pipe upright, and base plate.
   1. Steel Upright: 2-1/2 inch ID steel pipe, height varies to suit roof construction.

   2. Steel U-Bolt: 1/2-inch cold rolled steel bar, bent to 2-inch clear diameter U-shape.

   3. Base Plate: 3/8-inch steel plate punched with holes for attachment to roof deck.

D. Coating: Hot-dip galvanized after fabrication per ASTM A 123/A 123M.

~~E. Cable: Stainless steel wire cable, minimum 0.375-inch diameter as tested by fall protection device manufacturer. Provide stainless steel accessories.~~

2.02 OTHER MATERIALS

A. All other materials not specifically listed herein-in, but required for the successful installation of the work included, are subject to approval.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine framing and roof surface for adequacy and compliance with structural requirements of fall arrest anchor design.

B. Notify Project Coordinator of any defects or improper coordination prior to commencing work.

3.02 INSTALLATION

A. General: Install exterior fall prevention system devices according to manufacturer's instructions and recommendations.

B. Provide on-site inspection and supervision of installation by factory-trained representative.

3.03 DEMONSTRATION

A. Instruct County's designated personnel in proper use of fall prevention safety devices.

B. Test and adjust system devices. Replace damaged or malfunctioning items.

END OF SECTION